The Bristol Medico-Chirurgical Journal.

"Scire est nescire, nisi id me
Scire alius sciret."

MARCH, 1907.

PROGNOSIS.[1]

BY

P. H. Pye-Smith, M.D., F.R.C.P., F.R.S.,

Consulting Physician to Guy's Hospital.

Prognosis is one of the most ancient branches of medicine. In early times pathology, or the science of disease, did not exist, and treatment was for the most part ineffectual as well as superstitious. But the forecasting of events, when based upon prolonged experience, justly impresses both the educated and the vulgar. We see this in the case of the oldest of sciences—astronomy, based on observations and proved by the power of prediction of eclipses. One can imagine how those who had scoffed at a mortal being able to foretell the overshadowing of the sun or moon, and to foretell it on a definite day or night, must have been impressed by the beginning and completion of the shadow of the earth. The same holds with other branches of science: the cultivation of crops and of flowers, construction of piers and bridges, the

[1] An address given to the meeting of the Bristol Medico-Chirurgical Society on February 13th, 1907.

power of transmitting messages by the electric telegraph, and the still more marvellous achievement of wireless telegraphy. Incredible as these discoveries once were they are no longer so, even when the explanation of the how and the why is incomplete.

So when a child is attacked by the symptoms of pyrexia it is a wonderful thing that we can foretell the progress of the disease, its gradual evolution, and, when the crisis is passed, its gradual return to the conditions of health. Nothing is more solid as a foundation for rational medicine than the power we have of foretelling within tolerably narrow limits the course of such diseases as syphilis, variola, and enteric fever. No justification can be more complete, no demonstration stronger to every candid observer, than the accomplishment of a prediction of a disease.

The following are a few examples from the prognosis of the father of medicine :—

He taught that when delirium disappears after the patient has slept he is likely to recover. That it is a bad sign for the convalescent to regain his appetite without putting on flesh. In cases of jaundice, if the liver becomes hard to the touch the prognosis is grave. When spitting of blood is followed by expectoration of matter the prognosis is unfavourable. When an abscess is opened by the knife or the cautery, if pure white matter flows out the patient will do well, but if it be mixed with blood and is foul in odour he will probably not recover. In acute diseases prognostics either of death or recovery are more uncertain than in those of a chronic course.

During the long retrogression which followed the Hippocratic era, when Galen taught anatomy on monkeys and hogs, and treatment was empirical and usually inefficient, the shrewdness and unbiased observations of the best physicians enabled them to form a prognosis, sometimes with remarkable success.

Again, next to immediate relief of pain there is no question so paramount with the patient himself as that of the event. What is it ? generally means, What will it do to me ? A favourable prognosis when given with authority is often more important than any method of treatment, and while we must never give patients hopes which cannot be fulfilled, we must preserve the

priceless benefit of that determination to get well, of that interest in one's own case, which is one of the chief aids to recovery. The mere statement of the name of some obscure condition, and still more the prediction of recovery, however guarded as being probable rather than certain, will often ensure sleep in a despondent patient, and will rouse the effort which is needful for recovery.

The diseases of *children* afford very interesting examples of prognosis. In early childhood the patient can give us little or no account of his condition, and we have to depend entirely upon our own observation. Nothing, therefore, is better exercise for beginners than to investigate one of the exanthems or a severe injury in a little child. If they cannot help us by information they at least cannot set us on the wrong track (as adults frequently do), sometimes by wilful deception, but more often by the incurable mixing-up of facts and inferences and the obstinate refusal to tell us what no one else can—the patient's own feeling, and not a mixture of information from others, in supposed agreement with the theory of medicine.

In early life the processes of disease are very rapid, and a child may speedily be brought from the condition of blooming health to that of grave sickness, or even of imminent danger. But although this is true, particularly of diarrhœa and laryngitis, it is also true that children have a great power of resistance to a malady, so that his recuperative power not infrequently carries a child safely through extreme peril. Anatomical conditions of the child's body render the prognosis of invagination and laryngeal diphtheria peculiarly fatal; but diphtheria in children has been happily robbed of its terrors by the scientific treatment that has enabled us to meet the case with hope, and usually with success, which in patients under three years old was almost certain to end fatally.

When we deal with a disease of known pathology prognosis is comparatively easy. Cancer and hydrophobia, glanders and leprosy are soon recognised, and their diagnosis involves the gravity of the forecast. As soon as we have made the diagnosis of modified variola or of enteric fever we can predict the course of the disease and the order of its symptoms. When we have

decided that a supposed scarlatina rash is a local erythema, or a scaly patch on the scalp is not ringworm, the prognosis carries with it the means of cure. Some of our elements of prognosis depend on the patient himself rather than on the disease. Certain symptoms, like hyperpyrexia, subsultus tendinum, or convulsions at once suggest a grave prognosis ; while, on the other hand, to see a patient's appetite returning, to observe his lying on his side instead of on his back, the diminished temperature and less frequent pulse, a recovery of strength and volume in the voice, are signs of improvement which we all recognise as guiding our prognosis.

Although their frame is fragile, we must all of us have been struck by the power of resistance of children in spite of loss of flesh, how they will rally after extreme emaciation or continued convulsions, or prolonged bronchitis. Even the worst forms of eczema are very seldom fatal. Children will struggle through rickets and will surmount the successive invasions of whooping-cough and bronchitis, of measles and diphtheria, scarlet fever and nephritis. Never give up a child till he is screwed down.

With older children, after the first dentition and until puberty is attained, the prognosis is much more favourable than in young children, and even in adults. Children between two and twelve are still subject to acute and severe illness, and may rapidly pass in a few hours from apparent health to imminent danger, but, compared with infants, their circulation is more stable, their vigour in breathing and coughing is much greater, and their power of maintaining temperature more perfect.

The older the patient attacked by diphtheria or scarlatina or ringworm the better is the prognosis. In one well-marked and severe disease—lobar pneumonia[1]—we must all have been struck by the wonderful power of recovery shown by children of between three and fifteen. We may say that death from uncomplicated acute pneumonia at this age is almost unknown. The same is true of enteric fever, the mildest forms of which are characteristic of this early age.

In this period, however, the prognosis of phthisis is very grave,

[1] Not "croupous pneumonia."

and it is often complicated by general disseminated tubercle. Scarlatina is more severe in these young subjects than in adult life, while measles is less so, and rubella is less severe and more safe at an older age.

There remains one of the most striking differences between the prognosis of a child and an adult—I mean *diabetes*. Happily rare in children and young adults, its danger is almost exactly measured by the age of the patient. The rare cases which occur in infants are probably always fatal, and the symptoms are very acute. In young adults it is still a very grave and menacing disease, and it is not till after forty that the cases become milder, less sudden in onset, and less severe in their symptoms, while, as we all know, diabetes in patients of advanced years is sometimes so mild that it is scarcely more than a bearable infirmity.

The period from twenty-five to fifty is probably on the whole the most favourable for diseases, acute or chronic. Cases of unvaccinated small-pox, if they recover at all, belong to early life, ten to twenty. During the period of forty to sixty, cases of phthisis are generally more chronic and more amenable to treatment than before. The muscular powers and the vigour of the heart, the respiration, and the brain are in most persons still at their best. When those who have attained an older period of life may still show remarkable mental ability, their enduring power is in almost all cases much diminished. The old man who would guard his laurels must speak but seldom. On the other hand, old people are less plagued with the sick headaches, indigestion, and eczema of early life. They are more liable to cancer, particularly of the stomach and rectum, but, according to the experience of most of us, less so to sarcoma. As old age advances, it is remarkable how many men and women retain considerable powers of endurance. Many old men bear short sleep and diminished rations better than they did in the prime of life, and are sometimes less fatigued than those twenty years younger by a day's shooting on a warm September day or a night in a railway carriage. Specific fevers are very fatal in old age. At the same time acute pneumonia, though never the almost innocuous disease of youth, is far from always fatal. I imagine the not infrequent cases I

have seen of men and women of sixty-five, or even seventy, who recovered from pneumonia, must be explained by their being picked lives, that is to say, that they have surmounted so many assaults in their long life that they are no longer ready to surrender at the first summons. Cancer is, as we all know, not infrequent in even the oldest, but it is in them that it is most often discovered for the first time after death. Very chronic cases of cardiac disease or Bright's disease are common in old age, but their symptoms are less severe than in younger patients.[1] In advanced old age, apart from these almost latent organic lesions, the chief mortality, like that of young children, is due to bronchitis or diarrhœa. Cerebral hemorrhage, though common in old age, is less so than at sixty; but we must remember in these, as in other cases, there are fewer persons living over seventy to furnish large numbers of any disease. In old people arterial disease is almost part of their natural condition, and probably there are few over fifty but have some loss of elasticity of their arterial coats. Hence the frequency of death in the aged, either from rupture of arteries in the brain or, still more suddenly, from syncope of the heart.

Lastly, I would urge the conviction that old age is not in itself a cause of death at all, however readily returns are made to the Registrar-General. I do not remember seeing a *post-mortem* examination in which there was not present degenerated blood-vessels, or renal disease, bronchitis, or diarrhœa, latent cancer, or some other obvious anatomical lesion.

Here let me urge the importance of drawing up the certificate of death either in accordance with an autopsy, or, when this cannot be obtained, in accordance with the symptoms during life. Apoplexy is a condition we can all recognise, and death from that cause is scientifically certain. But if we return "cerebral hemorrhage" as the cause of death, we are putting a probable conclusion only, and the result is that common diseases are made more common and rare diseases more rare than they truly are. Again and again I have seen such causes of death as anterior poliomyelitis, cancer of the pancreas, or tumour of the lung reported

[1] Mental and moral mellowing of old age—

"The soul's dark cottage, battered and decayed,
Lets in new light thro' chinks that time has made."

without any anatomical evidence. "Congestion" of the lungs or liver or other organs is another source of false facts. If active, the hyperæmia is only part of a local inflammation; if passive, it is due to some other primary cause. No doubt the double return asked for invites such secondary causes of death, but we are not obliged to make the double return, and a statement that a patient died of pneumonia, of phthisis, of renal dropsy, or of cancer of the liver is less, not more, valuable if bronchitis or pleurisy are added, or if we return cancer of the stomach instead of cancer of the liver, because we know that with few exceptions hepatic cancer is secondary to that of the stomach or bowels.

The difference between the sexes in the incidence of disease is much less than the difference of age. More girls than boys are subjects of chorea and whooping-cough. The exanthems affect both sexes equally. The frequency of scarlatina as a complication of delivery has long been recognised.

Speaking generally, better prognosis may be given in cases of serious disease when the patient is a woman than when a man. This applies strongly to gastric ulcer, and not to duodenal; also to valvular disease of the heart and to anæmia, but it certainly does not apply to phthisis.

In the large group of nervous affections we may, as a rule, give a better prognosis in the case of women. They more often recover from what has the appearance and many of the symptoms of organic disease: a cerebral hemorrhage, a tumour of the brain, acute myelitis or sclerosis of the spinal cord.

An important point in forming a prognosis is the different gravity of an acute attack occurring in a healthy organism and in a patient already suffering from chronic disease. Acute pneumonia, acute bronchitis, and infective fevers are all more grave in the case of patients already suffering from chronic disorders; and we may affirm that this is particularly true of diseases of the kidneys, the heart, and the lungs. The presence of Bright's disease is an important element in prognosis, not only when complicated by a new disorder, but when tried by injuries, including surgical operations, and by drugs like opium and mercury. Cardiac disease increases the mortality of bronchitis, of pulmonary

catarrh (so-called "lobular pneumonia"), and acute lobar pneumonia. The presence of chronic phthisis and emphysema is most important in cases of acute bronchitis, whereas I have seen patients even at an advanced stage of phthisis go favourably through an attack of scarlatina, enterica, and acute rheumatism. Phthisis scarcely increases the danger of valvular disease. On the contrary, when cardiac incompetence is established it often appears to check the progress of consumption.

The presence of *glycosuria* has a marked deleterious effect on the prognosis of injuries or surgical operations, and also upon cases of acute pneumonia.

Anæmia differs so much in its causes and pathology that it is difficult to speak of its influence on prognosis generally. We may say that anæmia caused by direct hemorrhage, by injury or rupture of a blood-vessel, is less serious than when pallor appears during convalescence from fever or rheumatism, or when caused by privation or by deficiency of light and air.

The influence of *malaria* as an element of prognosis, like that of syphilis, has probably been overrated. It is very doubtful if *syphilis* is responsible for anything but its own direct effects; but we must include among the later effects of lues the chronic nervous degenerations of the nervous centres which have long been clinically recognised as general paralysis and tabes.

Another disease to which some writers attribute, I think, far too extensive an influence, is *gout*, particularly when the demonstrable anatomical effects are supplemented by various other symptoms which lead to drinking weak mineral waters and travelling to distant and expensive baths.

Prognosis of *enteric fever* depends, first, upon the age of the patient. In children it is as a rule a recoverable disease. I once saw a little boy pass through a severe attack in which there was every evidence of perforation of the bowel except seeing it, and he went out as healthy and much fatter than any boy of his age I have seen.

Pneumonia, like others of the group, is more favourable when primary, and less so when secondary to other diseases.

Many authorities, especially abroad, teach that *syphilis*, once

acquired, is never got rid of, but therein I cannot agree. That it is a disease which often continues and relapses after apparent cure is a matter of common experience, but there are numerous cases in which all symptoms disappeared, the colour again became that of health, and the nourishment of the body as good as ever.

The prognosis of *phthisis* used to be considered almost hopeless, but at present it is generally recognised that the disease is curable. For proof of this we have only to frequent the dead-house of any large hospital to find in patients who have died from accidental injury, or some entirely different disease, unmistakable evidence of old phthisis in thickening and adhesions and contractions, so that the clinical course of the disease is confirmed by the results of *post-mortem* anatomy. We must all have seen such cases in practice, and noticed those who undoubtedly were affected in youth, living in health for many years, and dying at last from some other malady. This result is, however, far from constant. I have again and again observed that a patient who showed signs of tuberculosis in early adult life, after recovering and living for many years in health, may again develop symptoms of the disease of his youth. Two patients I have had for many years under observation in whom this result followed, and I am inclined to believe that the majority of cases called senile phthisis are really a recrudescence of a disease which was cured in early adult life.

The prognosis of cardiac disease.—In the early days of physical diagnosis it seems to have been thought by some of the leading physicians of the day that the presence of a murmur indicated incurable disease, and with the oracular solemnity of happily past times, an eminent physician, after listening to a patient's heart, said, "I am sorry to tell you, sir, that with the aid of this stethoscope I have heard your death-knell." Now valvular disease of the heart, regarded anatomically, is no doubt incurable, yet consequent changes in the muscular walls of the heart are sufficient to counteract the mischief done and to restore the hydraulic equilibrium of the blood. We hear such a process spoken of as an "effort of Nature" to deal with the

disease. This is surely an inaccurate conception. There is no such thing as conscious or intelligent modification adapted to cure a disease. The "effort of Nature" in causing contraction of a serous surface sometimes remedies a dangerous lesion, but as often these same adhesions may cause fatal strangulation. The only healing power is the fact that any natural process, when not too violently disturbed, tends to return to its previous state of rest. The very processes which lead to a defence of the organism in one case will lead to its destruction in another. Even the phagocytes, which form such useful protection for an organism, certainly are not acquainted with the object of their life.

Passing now to the prognosis of *Bright's disease*, we may notice that an improved estimate of a patient's chances has replaced, as in the case of phthisis and of cardiac disease, the early estimates of its hopeless nature. The discoveries of Laennec, Corrigan, and Stokes, like those of Bright, were regarded as pathologically interesting, but as affording little room for treatment. Acute nephritis is sometimes, indeed, so rapid and severe—particularly in children—that bleeding, purging, and hot baths are powerless to avert the fatal event; but these cases are rare, and the ordinary forms of tubal nephritis are subacute in time and severity, and admit of ample time for treatment. In the advanced stages of the granular kidney treatment is much less efficacious; but even then it is astonishing how often a chronic case may be broken by gleams of hope, and the final cause of death be due, not to uræmia, but to cerebral hemorrhage.

In cases of ordinary cirrhosis of the liver, the organ is usually in a state like that of the corresponding disease of the kidneys, which depends upon a long course of toxic processes begun long before they come under notice. Quite apart from their direct effects, they probably cause still more numerous deaths when they act in greatly aggravating the prognosis of pneumonia or other acute attack.

Tuberculous meningitis is, with reason, regarded as of the worst possible prognosis, but I have seen it recover under the

influence of mercury in cases which seemed as certain in their diagnosis as was possible without an autopsy.

Of the wonderful success in modern times of surgery in diseases of the brain we are all proud, and all the more because treatment is the result, not of chance good luck, but of carefully-reasoned scientific facts, acquired in the only way that facts in pathology can be discovered—by experiment on the lower animals. The diagnosis of a tumour of the brain, its accurate localisation and successful removal form, perhaps, the most brilliant example of surgery at its best which the past century offered.

I remember an observation which the late Mr. Stocker, the apothecary of Guy's Hospital in my student days, "obscurely wise and roughly kind," used to make in going round the wards to see urgent cases after the physician had gone home. "If," said he, "when you come with a candle to his bedside the patient lies indifferent when you pull down the clothes and examine the abdomen, that 's fever; but if he pulls them up again and turns over on his side, and swears at you for disturbing him, that 's brain."

The prognosis was often as sound as the diagnosis, but I am afraid in this, as in so many other matters, "the hits"—to use Bacon's simile—"are apt to be counted and the misses left out." The best prognosis, like the best diagnosis, rests on the foundation of observation and experience.

Of *gout and of rheumatism* it may be said that the arthritis they have in common seldom, if ever, leads to a fatal result. It is the rheumatic pyrexia which kills a patient with all the characters of a specific fever. On the other hand, gout has no such affinities, but proves fatal indirectly by setting up disease of the kidneys and the arteries. What our predecessors meant by gout in the stomach we do not know. We merely recognise it as an acute attack of flatulent dyspepsia, which can usually be cured by soda and ether with other anti-spasmodics. I have observed that the prognosis of rheumatic fever (provided that the heart escapes) is comparatively unaffected by anything but hyperpyrexia, and the joints seldom, and only after usually frequently-repeated attacks, become deformed.

Osteoarthritis, most unluckily still called rheumatic gout, though so distressing a crippling disease, has no internal allies, and is compatible with prolonged health for many years.

A fourth articular disease, also confused with gout and rheumatism, is gonorrhœal synovitis, remarkable by its origin, its distribution, and its relation to the eye, where it sometimes produces a subacute sclerotitis—quite distinct from infective iritis, due to actual contact with the streptococci of a primary focus—a true gonorrhœal ophthalmia. The prognosis of this rather uncommon affection is that it never attacks the heart; that though often obstinate and prolonged, it never returns when once got rid of, unless a fresh attack of gonorrhœa occurs, and then it almost always recurs, as bad as before.

The prognosis of what used to be called *typhlitis* or *peri-typhlitis* has changed remarkably in our lifetime. When described by Addison in 1850, it was generally cured by starvation or milk diet, opium, and local anodynes. The fatal cases were very rare. Now the same disease—for it must be the same—is often ushered in with great rapidity, and, unless early dealt with by the surgeon, is apt to lead to death. While admitting the frequency of such severe and rapid cases, I cannot throw away the experience of earlier days when typhlitis was a comparatively frequent disease, usually cured without operation, and only so treated when unusually severe or when the presence of pus was early recognised.

The prognosis of renal disease varies with age and circumstances. In children it is happily rare, though far from innocent. But in adults it is more manageable, and in old age a certain amount of albuminuria is compatible with comfort, and seldom ends in the rapid and profound coma seen in younger cases.

The prognosis of diabetes is better known now than it was in the days of Prout. In those under adult age it is rapidly and almost constantly fatal by coma. In early adult life it is a still dangerous disease. In old age it is comparatively free from danger.

Rational prognosis is the result of experience in cases, at the bedside and in the dead-house. If every organ could be the

seat of every kind of disorder we should never come to a conclusion; but we know that each organ has its own more or less restricted pathology, and therefore the path of accurate diagnosis and successful prognosis lies through the dead-house. On its portals might well be inscribed the sentence of our great master, Harvey: "Ad viliorum animalium inspectionem . . . accedite; nam neque Dii desunt immortales maximusque omnipotens Pater in minimis."

May I conclude, as I began, with a few aphorisms of prognosis?

Acute diseases following on chronic are the most dangerous.

A degree of pyrexia, which is unimportant in a child, is serious in an adult.

Typhus is most dangerous in the case of elderly patients and infants; less so in young adults.

The most severe forms of scarlatina occur in children; but whooping-cough is dangerous only in young children.

Pneumonia is benign, as a rule, in children and young adults, and is fatal in drunkards.

Acute primary pleurisy is only dangerous when the pericardium is also affected; but the pleurisy secondary to tubercle, or to cancer, or to Bright's disease is usually fatal.

Œdema of the glottis is seldom the cause of death; œdema of the lungs is often so.

"Capillary bronchitis" is in most cases lobular catarrh.

Hæmoptysis is seldom fatal by flooding the lungs. If it is, the cause is probably a small aneurysm of the pulmonary artery.

Hæmatemesis is seldom directly fatal. Valvular lesions appear to check rather than aggravate the progress of phthisis.

Sudden death is more often due to aortic incompetence than to aortic obstruction, and more often due to mitral obstruction than regurgitation.

Apoplexy, which is ingravescent, is almost always fatal.

Malignant growths are most rapidly fatal in children and young adults. In old age they spread slowly, and sometimes undergo more or less complete wasting.

CEREBRO-SPINAL FEVER (EPIDEMIC CEREBRO-SPINAL MENINGITIS).

BY

D. S. DAVIES, M.D.,

Medical Officer of Health, Bristol,

AND

I. WALKER HALL, M.D.,

Professor of Pathology, University College, Bristol;
Pathologist to the Bristol Royal Infirmary.

THE invasion of New York by cerebro-spinal fever in the winter and spring of 1904–5, when some 4,000 cases occurred,[1] and the more recent appearance of the disease in Glasgow (March, 1906), in Belfast, and some other districts, invite attention to its causation and prophylaxis.

It is generally recognised that a cerebro-spinal meningitis may be set up by various causes, such as disease of the middle ear, pneumococcal, tubercular, or streptococcal infection, or as a sequel to certain of the exanthemata; but during the last years, the form (cerebro-spinal fever) which exhibits marked though erratic infective properties under predisposing conditions at present ill-understood, has been found to be definitely associated with the organism of Weichselbaum, the diplococcus meningitidis intracellularis.

The *history* of the disease[2] is not without interest. Its occurrence is veiled before the nineteenth century, but in 1804–5 Vieusseaux, of Geneva, distinctly described it. In the following year it appeared in America (Massachusetts), and the United States have hardly been free from it since; it became widely spread during the Civil War. In Canada the outbreaks have been small, probably owing to the scattered population. In

[1] Flexner, *Brit. M. J.*, 1906, ii. 1023.

[2] Bruce Low, *Tr. Epidem. Soc. Lond.*, 1898–9, N.S., xviii. 53.

India it has been prevalent from time to time in the jails. Europe has never been quite free since the Geneva outbreak, in turn it spread to France, Italy and Denmark, and afterwards to nearly every European country. In France it was noticed that the outbreaks largely affected troops in garrison. A widespread outbreak occurred in Dantzig in 1865–6, when 1,900 were attacked, chiefly children.

The disease was first noted in Ireland in 1845–6, when it affected the Irish Constabulary and the workhouses at Dublin, Bray, and Belfast; again in 1866 it prevailed in the Dublin barracks and in the Curragh; in 1885–6–7 it again became epidemic in Ireland. In the first six months of 1900 there was an outbreak in Cork[1] involving 100 cases and 25 deaths.

In Scotland it has been shown that, though not generally recognised, the disease occurred from time to time in small outbreaks between 1877 and 1886.

In England and Wales also various groups of cases have from time to time been reported, but its nature appears to have not infrequently escaped recognition; it is probably not so rare as is generally supposed, and since 1890 there has apparently been a general tendency to ascribe obscure outbreaks to influenza.

Local History.—No widespread outbreak has been recorded in the Bristol district, but Stack[2] has recorded an interesting group of six cases received into the Royal Infirmary in 1900–1, in five of which the diagnosis was confirmed by lumbar puncture and recognition of the diplococcus intracellularis: the sixth case occurred in the same house as, and was the daughter of, a fatal case. He sums up the most constant conditions as: (1) An irregular temperature not assignable to other causes; (2) pain in the back of the head and neck; (3) general hyperæsthesia; (4) herpes labialis; (5) Kernig's sign (inability to extend the leg on the thigh when the thigh is at right angles to body); (6) discovery of specific diplococcus.

The following table, for which we are indebted to Dr. A. Rendle Short, gives a résumé of cases which have been treated in the Bristol Royal Infirmary since 1901:—

[1] *Brit. M. J.*, 1907, i. 461. [2] *Bristol M.-Chir. J.*, 1901, xix. 44.

DATE OF ADMISSION.	SEX.	AGE.	SYMPTOMS, ETC.	RESULT.	ORGANISMS.	REMARKS.
8.2.02	F	22	Headache, optic neuritis, vomiting, squint, no fever	Cure..	——	Perhaps not proven
2.6.02	F	14	Headache, coma, hazy discs, herpes, no fever	Cure..	——	Doubtful
27.4.03	M	37	Coma, fever, delirium ..	Death	M. meningitidis (in nose also)	——
5.3.04	M	15	Fever, delirium, headache retraction, herpes, hazy discs	Cure..	M. meningitidis	——
26.5.04	M	15	Fever, headache, herpes, Kernig's sign	Death	M. meningitidis	——
18.9.05	M	6/12	Posterior basic meningitis, with retraction	Death	——	Undoubtedly a form of C.S. meningitis
31.12.05	M	33	Headache, fever, coma, retraction	Death	——	Proved at autopsy
2.3.06	F	10	Proptosis, sphenoidal sinusitis, basic meningitis	Death	M. meningitidis	——
22.2.06	M	3/12	Posterior basic meningitis with retraction	Death	Diplococci and staphylococci	——

Infectivity.—The recorded facts in regard to cerebro-spinal fever are not so contradictory as they at first appear to be, and there is little doubt that the chief incidence of the disease is upon childhood, or upon young adult life,[1] and that in close communities, such as barracks or institutions, the disease is certainly, though apparently not very readily, communicable.

The seemingly sporadic habit of the disease, when introduced under conditions of less intimate association, as into a village, may be explained by the habits of the organism, which when grown artificially is readily attenuated, and may thus, if similar attenuation attend its natural distribution amongst individuals of varying resistance, give rise to ill-marked cases, or to "carrier" cases, by which the infection is preserved and handed on, exactly as in the case of diphtheria. Extensive investigations by Osterman showed that the meningococcus was present in the nasal cavities of 74 per cent. of the people who had been in the neighbourhood of the patients. Jehle points out that miners form specially good carriers, as the organism thrives best apart from light, and in a warm, moist atmosphere.

[1] Hirsch points out that the age limit in most epidemics is from 1 to 15, but in "military" epidemics the most vulnerable ages are from 18 to 24. —*Geographical and Historical Pathology*, vol. iii., New Sydenham Soc., 1886

It must not be forgotten that animals may also act as carriers. In the 1872 New York outbreak, and in the 1866 Irish outbreak, horses and pigs suffered badly from cerebro-spinal fever. Rabbits, mice and guinea-pigs are almost insusceptible to the action of the meningococcus.

The limits of an outbreak may, therefore, not necessarily be defined by the known cases, and, equally, the fatality of outbreaks is probably, as a rule, overstated.

This points to the need for early notification, before the specific organism has become "domesticated" in a district, so that confirmation of diagnosis by lumbar puncture and bacteriological examination may further the application of prompt preventive measures to the initial cases.

Farrar[1] insists with much cogency upon the infectivity of the disease, and adduces instances pointing to the conveyance of the infection by "fomites," by aerial infection during expectoration and sneezing, by kissing, and by the mediate agency of contacts. Its "limited" infectivity is, at the same time, indicated by its sometime presence in barracks without concurrent prevalence in the civil population, and by the converse condition.

The epidemiological facts point to the persistence of the organism with high potentiality of infection for long periods, followed by an explosive intensity upon occasion, as manifested in fatal "house-epidemics;" this activity is rapidly exhausted, and these localised outbreaks, intensely virulent within a narrow range, do not, as a rule, spread very far. In explanation of its explosive epidemic virulence, he hazards the suggestion of a symbiosis of the meningococcus with some other organism, such as the micrococcus catarrhalis, or Pfeiffer's bacillus.

Prophylaxis.—Two classes of people must be considered, namely the "infected" and the "infective." It is apparently necessary that the buccal and nasal cavities of possible "carriers" should be washed out night and morning with a good stream of warm dilute antiseptic solution, and swabs should be taken and submitted for bacteriological examination at regular intervals.

[1] Farrar, "The Infectivity of Cerebro-spinal Fever," *Tr. Epidem. Soc. Lond.*, 1905–6, N.S., vol. xxv. 245.

" Contacts " should be isolated and similarly treated.

As to the patient himself, effective isolation is very advisable. His nasal and buccal cavities and hands should be kept continuously clean. All the utensils he touches should be immediately disinfected. Handkerchiefs, towels, linen, bedclothes should be dipped at once after use into disinfectant solution. The room which the patient has occupied should be thoroughly disinfected

Mervyn Gordon recommends medical " Izal " for the purpose of buccal and nasal disinfection, and places potassium permanganate equal to mercury bichloride or silver nitrate. Almost any disinfectant will serve the purpose, provided it is used sufficiently strong.

Jehle employs pyozyanase, a proteolytic ferment. The introduction of five drops of this ferment serves to effectually kill the organism when present in the nasal fossæ.

Diagnosis.—Lumbar puncture should always be made in indefinite cases of meningitis. The skin should be specially well cleansed, and a needle with a small bore employed. The fluid should be received into a sterile tube, the tube at once plugged with sterile wool, and transmitted for chemical, cytological, and bacteriological examination. The characters of the cells afford useful information, and the coccus itself can be isolated within a few days.

The agglutination reaction is also of value. It may be produced by a sample of blood withdrawn from the patient on the sixth day and onwards.

The *general features* of the disease are thus described in the memorandum of the Local Government Board, issued in 1905 :—

" An acute epidemic disease, characterised by profound disturbance of the cerebral nervous system, indicated at the outset chiefly by shivering, intense headache or vertigo, or both, and persistent vomiting ; subsequently by delirium, often violent, alternating with somnolence or a shade of apathy or stupor ; an acutely painful condition, with spasm—sometimes tetanoid—of certain groups of muscles, especially the posterior muscles of the neck, occasioning retraction of the head, and an increased sensitiveness of the surface of the body. Throughout the disease

there is marked depression of the vital powers, not infrequently collapse, and in its course an eruption of vesicles, petechiæ, or purpuric spots, or mottling of the skin is apt to occur. If the disease tends to recovery, the symptoms gradually subside without any critical phenomena, and convalescence is protracted; if to a fatal termination, death is almost invariably preceded by coma."

Various forms are described, viz.:—

1. The fulminant form, attacking suddenly and killing quickly.
2. The simple form, having typical nervous symptoms.
3. The purpuric form, attended by hemorrhages.
4. The abortive form, with anomalous symptoms, running a short or irregular course.

A specific coccal pharyngitis or tonsilitis is a frequent early symptom.

The *predisposing causes* upon which chief importance has been placed are cold, dampness of soil, fatigue, and, in general, depressing influences; also the influence of insanitary conditions, especially such as generally accompany overcrowding.

Treatment.—In addition to the older remedies, withdrawal of fluid by lumbar puncture and the frequent use of hot baths are now generally advised. The proposed injection of 1 per cent. lysol into the spinal canal has not met with general application. Injections of mercurial cyanate and collargolsalbe may be placed in a similar category. Westenhœffer suggests incision of the atlanto-occipital ligament during the second week of the attack. This provides permanent drainage, prevents hydrocephalus, and permits of local applications being made.

Serum Treatment.—Many attempts have been made to obtain a curative serum. The earlier sera of Bonhoff, Lepierre, and Lingelsheim, obtained after injection of the dead and living cocci, had only slight protective effects. A similar result followed the earlier use of aggressin. The names of Wasserman, Kolle, Bruck, Bordet and Gengon, Mareschi, Neisser and Sachs, indicate the amount of work and the eminence of the workers upon this subject. The endeavour was next made to estimate the quantity

and specificity of the immune bodies in the anti-serum. Inactivated specific serum—meningococcal serum—was placed in a test-tube, together with an extract from the cocci themselves, and with some normal guinea-pig serum, and kept at 56° C. for about half an hour. The amboceptors of the anti-serum, the receptors of the bacillary extract, and the complements of the fresh serum were brought thus together. The addition of an inactive hæmolytic system (serum and blood corpuscles) was now made in order to avoid ultimate hæmolytic action. After two hours in the incubator, and twenty-four hours on ice, specific amboceptors appear and anchor the complement. In this way the specificity and quantity of the amboceptors has been determined.

Five to ten c.c. of this serum are injected subcutaneously, and the injection is repeated once or twice on the following or alternate days.

Jochmann prepares a serum which is injected intra-spinally in quantities of 20–30 c.c., after removal of 20–50 c.c. of the spinal fluid by lumbar puncture. In this connection it may be cited that lumbar puncture itself, by the withdrawal of toxins and meningococci, is often followed by surprisingly good results.

The condition appears to be very favourably influenced by the use of the serum, but it is as yet too early to quote any definite statistics.

It is possible that "vaccine" treatment may play a useful part in later outbreaks.

Pathological Anatomy.—The main features consist of a thick, purulent, creamy exudate covering the base, and sometimes the cortex, of the brain. The Sylvian fissure is generally free from exudate, but the upper surface of the cerebellum is the seat of much exudate. These points are useful from a diagnostic standpoint. In long-standing cases the meninges are fibrous, and cerebral atrophy and serous, or purulent, internal hydrocephalus are frequent. The cord shows similar conditions.

In addition, meningo-encephalitis often occurs, the glandular organs generally show cloudy swelling, the spleen is enlarged, there is often purulent bronchitis and lobular pneumonia, pleurisy

and pericarditis and joint troubles are not infrequent, and catarrh and punctiform hemorrhages are present throughout the alimentary tract, while the mesenteric glands are almost always enlarged.

The meningococcus can be obtained from either the nasal cavity or the pharynx. The organism appears to extend to the meninges by the lymphatics, although it is not possible to entirely exclude hæmatogenous paths of infection.

There are many gaps in our knowledge of this disease, and every case is worthy of minute and careful observation and record.

OPERATIONS FOR DEFLECTIONS AND SPURS OF THE NASAL SEPTUM, WITH SPECIAL REFERENCE TO SUB-MUCOUS RESECTION.

BY

P. WATSON WILLIAMS, M.D. Lond.,

Laryngologist and Rhinologist, Bristol Royal Infirmary; Aural Surgeon, Deaf and Dumb Inst.; Lecturer on Diseases of the Nose and Throat, University College, Bristol.

THE nasal septum is formed by the triangular cartilage, the perpendicular plate of the ethmoid, and the vomer, and is, therefore, divisible into the cartilaginous and the bony septum. These structures forming the septum may become fractured, dislocated, or deflected according to the nature of the injury or other primary cause of deformity. The cartilaginous septum is the most liable to dislocation or fracture, and most readily yields when subject to other causes of deflection mentioned below, and thus is most frequently the seat of defects requiring interference.

Deformities of the septum are very variable in shape, and it is convenient for clinical purposes to recognise three chief varieties. Deviations or deflections which are (1) C-shaped, as the septum may be bowed towards one side or the other, in an antero-posterior direction or in a vertical plane. (2) S-shaped

where the bowing is in one direction anteriorly or below, and in the opposite direction posteriorly or above. These C- and S-shaped deflections are frequently due to or associated with dislocations of the cartilage from the vomer, and are frequently combined with the next class of ridges or thickenings along the line of such dislocation. (3) Outgrowths, spurs, crests, or spines. These are usually seen along the line of articulation of the triangular cartilage with the vomer, and may or may not be accompanied with actual dislocation of the cartilage. Fractures of the cartilage in a vertical direction due to traumatism, when the anterior margin of the cartilage is usually seen projecting into one or other nasal vestibule, are very frequently complicated by thickenings forming a ridge along the seat of the fracture, usually due to local perichondritis and thickening of the mucous membrane over the corresponding area. But such thickenings or ridges may arise without any deflection or dislocation of the cartilaginous or bony septum being obvious.

Causes.—In a very large number of cases no history of traumatism can be obtained. On the other hand, in a very large percentage where marked deviation or spurs are present, the history of a severe blow is obtainable, and leads to the conclusion that even in the absence of such history some forgotten blow or injury has been the determining cause, for it is obvious that very few pass their time of childhood without being exposed to causes which might give rise to such defects.

It is probable that in earlier life any deflections of the septum may be relatively slight in degree, symptoms only arising long after, when, either from irritation in the region of the resulting crest or from the gradual increase of the deflection due to the suction action of respiration, the original deformity has become aggravated. But considerable deformities and deflections of the septum often exist without any symptoms whatever, and it is certain that in at least a considerable number, when symptoms ultimately do arise, it is owing to conditions which have lead to turbinal hypertrophy.

The deformity of the palate resulting from nasal stenosis, viz., the V-shaped or vaulted palate is considered by some

authorities to be a cause of septal deflections; while others consider that these septal deformities are due to the developing septum being out of proportion to the bony framework of the nasal fossæ. Probably in a certain proportion of cases these developmental factors influence the origin of the septal defects; but I am more and more convinced that traumatism is, even in the absence of the history of blows, by far the most frequent cause of the condition.

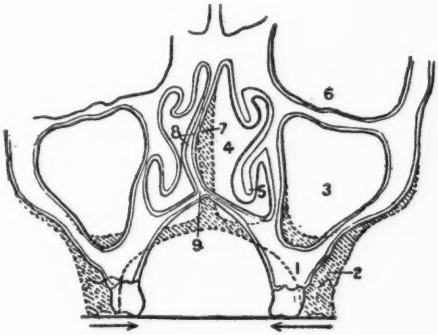

Fig. 1.

Diagram showing the formation of the high narrow palate and the deformity of the nasal septum resulting from nasal obstruction. The arrows indicate the line of action of the compressing force. (*After* LAMBERT LACK.)

Inasmuch as many persons who complain of no symptoms and exhibit no signs of nasal defects of any kind whatever are found in the course of examination to have considerable septal deflections or crests, it is important in determining the necessity for interference to be guided by the presence or absence of symptoms which call for removal of the septal defect. Yet very distressing symptoms may arise in cases where the nasal passages are sufficiently patent to allow nasal respiration from the lower portion of the nasal passages, but where, either owing to organic obstruction or to persistent nasal catarrh, the normal air tract is so stenosed as to prevent respiration along that tract.

Investigations such as those of Scheff and Kayser, and of

Parker, have shown that the inspired air normally ascends in a curved direction from the vestibule into the middle and superior

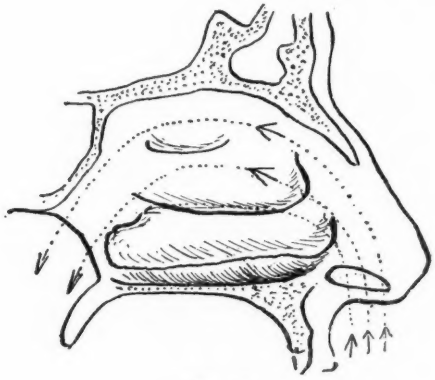

Fig. 2.

Diagram to show the normal path of inspired air through the nasal passages.

meatus, and thence gradually descends posteriorly to the choanæ. (Fig. 2.) Stuffiness in the nose resulting from ordinary cold, and the deficient respiration shown by children who are subject to adenoid growths, is essentially due not so much to actual stenosis as to the rhinitis and catarrh which prevents respiration through these normal air tracts. So we often find in cases of septal deflection that patients exhibit symptoms of nasal stenosis when the deflection is somewhat high up and far back, while the combined respiratory capacity of the lower nasal passages would suffice for respiration. The observance of this fact becomes all the more important when one has to choose the particular form of operation for the relief of a given case,

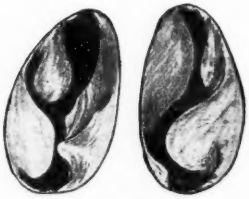

Fig. 3.

Double or S-shaped septal deflection —rectified by sub-mucous resection, and by ablation of the overfull anterior end of the left inferior turbinal.—W. W.

since we shall see that for this latter class the only satisfactory method is that of submucous resection. (Fig. 3.)

Undue fulness of one or more of the turbinated bodies, amounting to hypertrophy, may cause nasal stenosis, and it is sometimes necessary to reduce the enlarged turbinal by the galvano-cautery or by partial ablation. When the septum is deflected, the turbinated body corresponding to the resulting concavity very frequently undergoes a compensatory hypertrophy, so as to project into and partly fill this concavity. In some cases the nasal stenosis may be overcome from simple reduction of the size of the turbinals, by removing quite a small portion, rendering any interference with the septum unnecessary. But when a septum has to be straightened, such hypertrophic enlargement of the turbinal on the concave side will obviously tend to block the air-way more than ever, so that the previously patent side would become stenosed. This point must always be taken into consideration before rectifying the septal deformity, the anterior end of the hypertrophied turbinal, whether it be the middle or inferior, being ablated or otherwise reduced either a short time before or at the same time as the septal operation.

Operative Methods.—Of the numerous methods that have been advocated for the restoration of the septum, it is safe to say that many will now be relegated to the past in view of the eminently satisfactory results which can be obtained by submucous resection. Space prevents my alluding to more than three of the chief methods now employed, viz. Gleason's operation, Moure's operation, and sub-mucous resection, the latter alone calling for detailed description on account of its applicability to all cases and of the technical difficulties in its performance.

Gleason's operation can be commended where one has to deal with fairly hollow C-shaped deflections of the septum over a limited area, restricted to the triangular cartilage, and where there is no marked thickening of the septum as a whole.

It consists in making a U-shaped flap of the deviation either by transfixing the deviated portion of the convex side by

a narrow-bladed knife, which is passed through the cartilage just in front of the higher portion of the deflection, and then made to reappear on the same side by transfixing the cartilage again just posteriorly to the deflected portion, the knife being then carried vertically downwards until it is below the deflection, when it reappears; or a saw is made to cut the deflection from below upwards with much the same result. In either case the tongue-like flap of septum, with its mucous membrane and perichondrium intact, is hanging attached by its superior border.

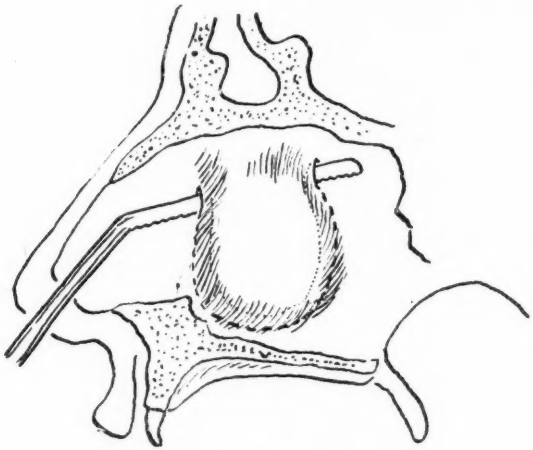

Fig. 4.

To show the method of making the flap in Gleason's operation.—W. W.

This is then forcibly pressed through to the concave side with the finger, care being taken to overcome the resiliency of the cartilage at its attachment. (Fig. 5.) The oblique direction of the incision ensures that the margins of the flap extend somewhat beyond the margins of the septal incision: thus when the flap has been passed through it cannot spring back again. If necessary, a splint is inserted on the concave side, sufficient to maintain slight pressure on the margins of the flap against the corresponding portions of the septum on the concave side, and this in the course of a few

days results in union. In the majority of cases which are suitable for the operation the result is very satisfactory, but it is obvious that if the septum is thickened where it was deflected this

Fig. 5.

One method of pushing the U-shaped flap in the septum to the concave side.

Fig. 6.

Diagram showing how the flap is automatically retained in position.

thickening will be liable to cause obstruction of the formerly patent side. (Fig. 6.)

Moure's operation consists in making the incision from before backwards, along the horizontal crest or lower portion of the

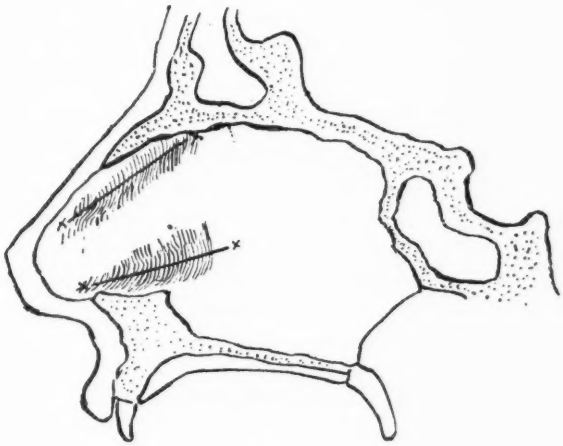

Fig. 7.

Showing the lines of incision in Moure's operation.

septal deviation parallel to the floor of the nose, and a second incision parallel to the anterior margin of the triangular cartilage, along the whole length of the deflection above, and with the finger or suitable septum forceps causing fracture of the cartilage towards the formerly unobstructed side, so as to overcome the resiliency of the cartilage. The cartilage is kept in the new position by means of Moure's or other suitable nasal plugs, and these at the end of a week are dispensed with, when the union has generally taken place. In some cases it may be necessary to subsequently trim the margins. Here again it is obvious that the operation can only be applicable to cases where there is sufficient room on the non-obstructed side to receive the deflected portion, and this can only be where deflection is simple, and has not undergone much thickening. (Fig. 7.)

The advantage of these operations is that they are quickly performed, and do not call for such technical skill as is essential for successful sub-mucous resection.

Sub-mucous resection essentially consists in the removal of the deviated portion of the cartilaginous and bony septum, while at the same time completely preserving the mucous membrane and perichondrium, a thickened and deflected septum being replaced by one that is thin, straight and stiff. It is thus suitable for every kind of septal deflection or spur, whether it is or is not associated with thickening of the septum, while for cases where the septum is considerably thickened it is the one method which most satisfactorily overcomes the difficulty, and ensures normal and patent nasal passages without destruction of the mucous membrane.

It is always possible in persons of good nerve and considerable self-control to do this operation with local anæsthesia alone, but the long time often required to do all that is necessary makes it very trying to the majority of individuals; and the prolonged strain, even in the absence of pain, makes it preferable to resort to general anæsthesia as a rule. If one depends on local anæsthetics, cocaine, eucaine, or novocaine can be used, and must be applied in solutions of considerable strength; but the fact that cocaine is not infrequently trying to the patient makes

it the more desirable to have them under general anæsthetics whenever possible. In any case, adrenalin solution should be applied, so as to cause vascular constriction, and it is important to allow sufficient time for the action of the adrenalin to take place before commencing the operation.

Difficulties attending local anæsthesia for septal resection would seem to have been satisfactorily met by Miller's method of locally applying a solution made by placing 20 grains of cocaine crystals in a shallow dish, and dropping sufficient adrenalin chloride solution 1 to 1,000, to dissolve the crystals. The solution is carefully applied to the area of mucosæ to be operated on. To better the patient's self-control, he administers a draught just before applying the cocaine, containing 10 grains each of the bromides of sodium, potassium and ammonium, with 1 drachm of aromatic spirit of ammonia. Miller reports that his last forty cases were operated on with this method of local anæsthesia painlessly, and with minimum of hemorrhage.

The patient should be lying on the back, with head and shoulders raised, and a very good illumination is essential.

The incision for simple ridges and spurs should extend from behind forwards along the summit of the ridge in its whole length, turning upwards for a quarter of an inch at the anterior extremity, the subsequent stages of the operation being similar to that for general deflection.

There are three different methods of incising the mucous membrane :—(1) The triangular ⌋-shaped incision ; (2) the single buttonhole incision ; (3) the author's method of incising the mucous membrane on both sides.

⌋-shaped incision.—If the variety of deflection is double-angled, with a vertical and horizontal crest, as shown in the accompanying figure, the first incision is usually made as suggested by Freer, along the angle of vertical deflection, beginning high up above the deflection, and extending right down to the horizontal ridge. Then a horizontal incision is made along the crest of the ridge, extending from the bottom of the vertical cut forwards almost to the front of the septum. This incision should cut just into but not through the cartilage, for if the

muco-perichondrium be not divided, when one comes to lift the muco-perichondrium the mucous membrane alone may be separated and raised from the perichondrium beneath, instead of both being together raised from the cartilage. A triangular, anterior flap of muco-perichondrium is thus outlined, and this

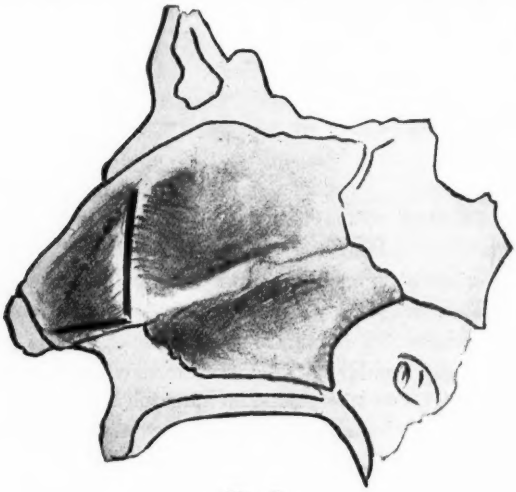

Fig. 8.

The ⊥-shaped incision, the mucosa being raised towards the front, exposing a triangular piece of the cartilage, which is cut through along the dotted line corresponding with the base of the exposed triangle.

should be carefully reflected, and then held forward by a small pledget of wool, much care being taken to avoid perforation of this anterior flap. The muco-perichondrium is then raised below the horizontal incision by means of a suitable elevator right down to the floor of the nose. Next the perichondrium of the septum posterior to the vertical incision is lifted until the whole has been removed corresponding to the septal deflection, extending down to the floor of the nose, and if necessary to the posterior border of the vomer. In this way the cartilage, and where necessary the bony septum, is bared and exposed on the convex side over and somewhat beyond the whole area of deflection. Either with a round-edged chisel or a suitable

septum knife, the cartilage is then incised, the incision extending *along the base* of the triangular flap, care being taken to leave at least a quarter of an inch corresponding to the anterior free border of the septum above, in order that there may be no risk of the falling-in of the nose. The incision must not extend through the perichondrium on the opposite side, and in making this incision the left forefinger should be inserted into the opposite nostril, so that no puncture shall be made. The muco-perichondrium is then raised from the concave side over the area corresponding to that alluded to in the first instance, care being taken to make the reflection right down to the floor of the nose on this side too.

The single buttonhole incision may be made about a centimetre and a half behind the septum cutaneum or columella, near the floor and extending upwards and forwards, being about threequarters of an inch long, nearly parallel to the anterior free margin of the cartilage but curving away from it below. The muco-perichondrium is then lifted on the convex side as in the first instance, but without making any triangular anterior flap. The cartilage is next incised without cutting through or perforating the mucosa on the opposite side, and the muco-perichondrium lifted from the concave side from before backwards.

The author's method of incision on both sides.—In many cases it is a matter of difficulty to incise the triangular cartilage in the manner described above without perforating the perichondrium, which is lying intact with it; and in order to avoid this contingency I have been in the habit of first making a small incision of the mucous membrane on the concave side, *well in front* of the site selected for the usual buttonhole incision, which is to be made on the convex side. A very narrow elevator is inserted so as to raise the muco-perichondrium, and by a movement of the distal end of this elevator upwards and downwards the muco-perichondrium is lifted from a considerable area on the concave side. (Figs. 9 and 12.) The elevator is then drawn out through the initial puncture, much as one would use a tenotomy knife. In this way the muco-perichondrium on the concave side, having already been lifted, when the incision comes to be made

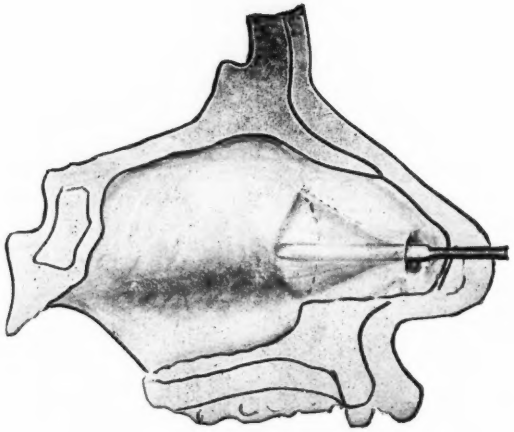

Fig. 9.

To show the author's method of making a small anterior incision on the concave side.

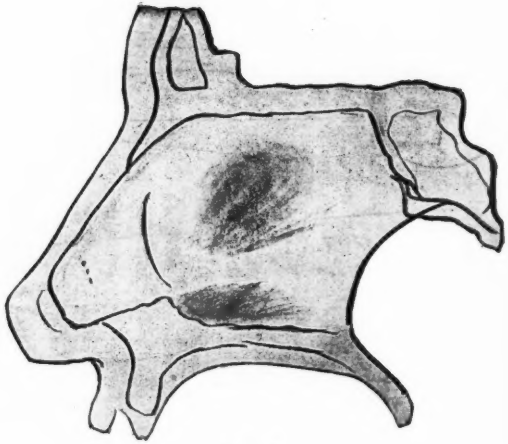

Fig. 10.

The usual buttonhole incision on the convex side. The dotted line in front shows the position of the small anterior incision on the concave side.

in the usual way through the cartilage from the convex side there should be no risk of perforation, because the curtain of muco-perichondrium on the concave side is simply pushed in

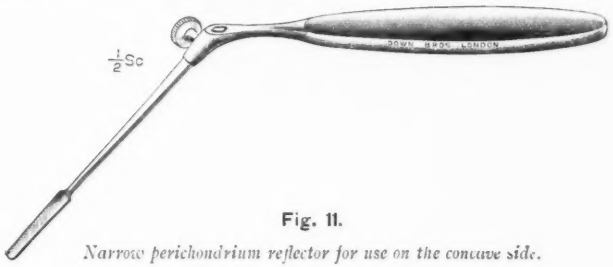

Fig. 11.

Narrow perichondrium reflector for use on the concave side.

front of the knife. The subsequent stages of operation are the same, whatever incision has been made. (Fig. 10.)

Speaking generally, the advantage of the L-shaped incision is that the incisions are made along the crests or angles of the deflections, and, as Freer has pointed out, it is easier to dissect the

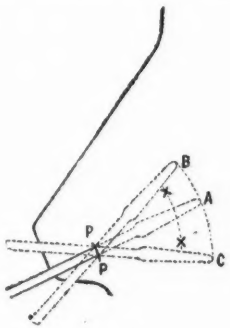

Fig. 12.

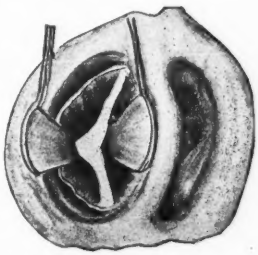

Fig. 13.

The two curtains of muco-perichondrium held apart, exposing the cartilage.

muco-perichondrium from the summit of the ridge downwards on either side than it is by incising altogether in front of it to dissect the perichondrium first up to and along the summit and downwards along the farther side. Especially is this an advantage if the vertical ridge be sufficiently near the front to be accessible. When, however, the deflections are situated well back it is a

greater advantage to utilise the buttonhole incision, or, to my mind, the double buttonhole which I have described.

Having thus laid bare the entire area of the septum, both cartilaginous and bony, corresponding to the deflections which may extend only to the quadrilateral cartilage, or, as we have seen, occupy the vomer and perpendicular plate of the ethmoid it finally remains essential to remove the whole of this deflected area. If any portion of the deflected area be left above or below, although it may seem insignificant as the cause of subsequent stenosis, it becomes of importance owing to its preventing the two curtains of muco-perichondrium (Fig. 13) hanging vertically in apposition in the mid-line, therefore interfering with their subsequent adhesion, and also because any intervening space may become filled with blood-clot, which may suppurate or become filled up with granulation tissue, leaving a thickened or irregular septum, instead of a thin, straight septum, which is the great end of the operation. In removing the deflection, it is convenient to hold apart the two curtains of muco-perichondrium by means of a long speculum, such as St. Clair Thomson's (Fig. 14) or Tilley's, or one may use Killian's speculum for median rhinoscopy. The cartilage should be removed by Ballenger's swivel knife (Fig. 15), applying it either at the lowermost part of the cartilaginous margin, or the uppermost angle, carrying it forwards until it reaches the bony septum, being then turned upwards or downwards as the case may be, and encircling if necessary the whole of the cartilage between the maxillary crest to within a quarter of an inch of the superior free margin of the cartilage. The knife is drawn out, having cut through the cartilage, which can then be lifted out readily with forceps. Subsequently the perpendicular plate of the ethmoid or vomer, if the

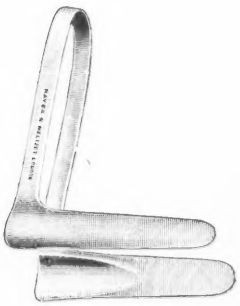

Fig. 14.

St. Clair Thomson's speculum.

seat of deflections or crests, are clipped away with cutting forceps.

The maxillary nasal spine and vomerine ridge must now be dealt with. The nasal spine may be prised away with forceps or removed by hammer and chisel, great care being taken not to wound the lower portions of the perichondrial flaps. If the ridge posteriorly is displaced or thickened it is clipped away, and then it only remains to wash away the debris, bring the curtains of muco-perichondrium into position, and very lightly pack the nasal passages on either side with strips of gauze, just sufficient to exert very slight pressure. By these means we keep the two flaps in their position, and not only ensure primary union, but prevent the accumulation of blood between the layers, which may cause subsequent trouble by suppurating. The following day all packing may be removed and the nose cleansed with warm antiseptic and alkaline solutions, which may be repeated daily

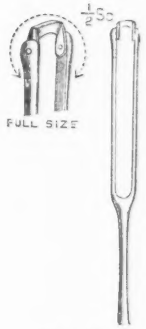

Fig. 15.

Ballenger's swivel knife, modified to hold flaps of mucosa apart on cutting the cartilage.

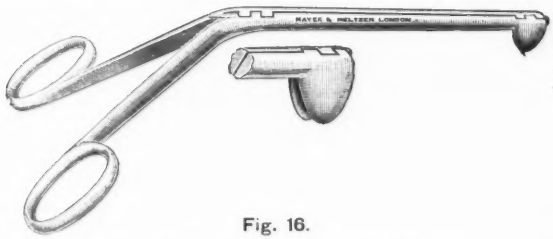

Fig. 16.

Wood's forceps for removal of maxillary crest.

until at the end of a week the parts will be healed and complete union have taken place.

The drawback to the operation, which has such eminently

satisfactory results, is that it takes considerable time, and though much care and patience be observed, perforation may result. Although these, if far back, may be of no moment, yet when they are near the anterior end of the septum they are found to catch dust or form crusts, or if they are only small perforations they may cause whistling sounds during respiration through the nose. Such contingencies, however, would rarely happen in the hands of a skilful operator.

Occasionally a septum becomes not only enormously deflected, but in process of development obviously increases out of all proportion to the other nasal structures. In one case under my care the deflection was so pronounced that the angle caused a slight elevation on the outside of the nose, and extended right across the nasal passage so as to completely obtrude it, while the posterior deflection on the opposite side also caused stenosis there. The intervening area on the concave side showed an enormous depression, which at first sight looked like a very large perforation. The case also was complicated by double empyema of the antra, doubtless mainly resulting from the retention of the nasal secretion owing to the deflections. In this case it was quite impossible to do resection, and the only way to relieve it was to resect a portion of the septum and leave the perforation.

It is remarkable that despite the entire removal of the cartilage between the layers of the perichondrium, which for a time will move like a curtain when touched with a probe, or even during respiration, yet nevertheless will become so stiff in the course of a few months as to give rise to the impression that cartilage has re-formed, which, of course, never can occur.

A very large number of these operations have now been done over a period of several years, and there seems to be no risk of depression of the nose externally. But in order to render this impossible, it is desirable to leave a quarter of an inch of free margin corresponding to the upper border of triangular cartilage above the lateral cartilage. Cases have been recorded where even a severe blow on the nose in patients who have undergone sub-mucous resection no deflection or depression has resulted.

How far one can wisely remove the bony or cartilaginous septum in children it is hardly safe to say without a larger number of cases before us than have yet been reported, but several instances in which quite young children have undergone the operation successfully, and without interference with their nasal development, have been recorded, and I have myself in one case removed a large portion of the anterior end of the triangular cartilage in a boy aged nine, and although that was

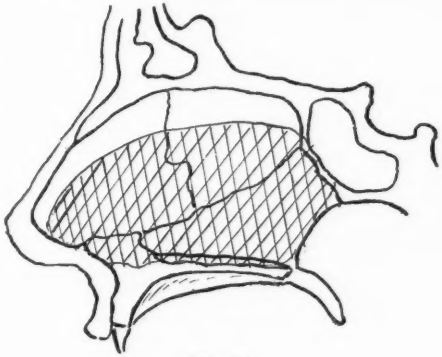

Fig. 17.

Showing the actual area of the septum removed with excellent results in one of the author's cases.

several years ago and he is grown up, his nose has developed well without trace of depression.

Indeed, it may be said that in children where stenosis exists nasal development would be far more interfered with if the cause be left, apart from all the other unfortunate results to nasal stenosis in a growing child, than could be the case from an adequate removal of the septal defects.

The Krieg-Bonninghaus operation, known also as the **Fenster resection,** consists in removing the whole of the cartilage or bone forming the deflection, together with the corresponding part of the muco-perichondrium on the convex side, and leaving the single bared muco-perichondrium of the concave side to form the new septum. It was originally introduced by Krieg and revived by Bonninghaus in 1900, but though still preferred by some

operators, has been generally superseded by the more satisfactory, though slightly more difficult, operation of sub-mucous resection. An ⌋-shaped incision is made on the convex side, the vertical incision in front of, and the horizontal extending below the whole of the deflection. The incision is made to cut through the cartilage without perforating the mucosa of the concave side, which is then raised as in the sub-mucous operation. The deflection, together with the mucous membrane of the concave side, is then removed bodily by scissors or cutting forceps. The fact that this procedure leaves a large bare surface of the muco-perichondrium of the other side, which takes some weeks to granulate and become covered with epithelium, is a serious drawback, though the ultimate result is usually satisfactory. The operation is nearly as difficult and tedious as the sub-mucous method, but the after-treatment is much more tedious, and the result is not so certain to be satisfactory, and I now never have recourse to it.

REFERENCES.

Bonninghaus—*Arch. f. Laryngol.*, ix. 269.
Freer—*J. Am. M. Ass.*, 1902, xxxviii. 636; 1903, xli. 1391; *Tr. Am. Laryngol. Assoc.*, 1905, p. 29.
Hurd—*Med. Rec.*, 1905, lxviii. 853.
Killian—*Verhandl. d. Gesellsch. d. Nat. u. Aerzt*, 1899.
Kreig—*Berl. klin. Wchnschr.*, 1899, xxvi. 699, 719.
Lack—*Diseases of the Nose*, 1906, pp. 65; 104 *et seq.*
Miller—*Med. Rec.*, No. 8, lxxi. 311.
Moure—*J. Laryngol*, 1901, xvi. 163.
Parker—*Ibid.*, 1901, xvi. 345.
Scheff and Kayser—*Ibid.*, 1895, ix. 64.
St. Clair Thomson—*Med.-Chir. Trans.*, 1906, lxxxix. 655.

TWO CASES OF RUPTURED INTESTINE.

BY

HAROLD F. MOLE, F.R.C.S.,

Assistant-Surgeon and Surgeon in Charge of the Aural Department, Bristol Royal Infirmary.

As cases of rupture of the intestine do not appear to be very common, and as, at any rate, cases operated on are seldom reported, it seems to me that these two successful ones are worthy of record.

Case 1.—Joseph K., æt. 35, was admitted to the Bristol Royal Infirmary on the evening of July 27th, 1904, complaining of severe abdominal pain. He had been struck in the epigastric region, slightly to the left of the middle line, by the pole of a swing-boat. He was taken unawares, being quite unprepared for the blow. He walked into the Infirmary. He was an exceedingly poor man, and had had no food for eight hours. He was much collapsed immediately after the blow, and in a few minutes vomited. After a time he recovered sufficiently to walk to a tram and come to the Infirmary. On admission he was rather collapsed, his abdomen hard and tender in the upper part, pulse good, 62, and temperature 95° F. He was watched for two hours, and during this time vomited three times, the total amount, however, being only two ounces. I saw him at this time, and his pulse was 72, very good, his temperature 97° F., and his abdomen rather hard and tender in the epigastric region. There was some blood in the vomit, corpuscles being seen with the microscope. The nature of the accident and the history strongly suggested to me a rupture of the intestine, and the abdomen was opened at once, four hours after the accident, by a median incision above the umbilicus. Blood appeared on opening the peritoneum, and on displacing coils of intestine was seen to come from the neighbourhood of the spleen. There was no sign of stomach or intestinal contents except a little sticky mucus. The stomach and spleen were carefully examined, but no rupture detected. The small intestine was then pulled out from the upper abdomen, and upper part of the jejunum being exposed, a large tear was seen involving nearly half the circumference of the bowel, but being placed obliquely to its long axis, in its fixed part just beyond the duodeno-jejunal junction. The thick mucous membrane was markedly everted, giving rise to a red-looking tumour. The blood was mopped out, and the mucous membrane sewn up with a continuous catgut stitch. The peritoneal and muscular coats were brought together with interrupted Halsted's stitches, and outside these one or two supporting Lembert stitches. The suturing was a little difficult owing to the fixed position of the bowel posteriorly. The abdomen was washed out with saline, and some of this left in, and a large cigarette drain inserted down to the line of suture. The rest of the wound was sewn up. Four days later the drain was removed and replaced by a very much smaller one, which was removed next day. He was allowed only water and brandy by the mouth for the first few days, and was given nutrient enemata. Other fluids were soon added, but no actual solid food until the fourteenth day, when the stitches were removed. He made an uninterrupted recovery, and never thought there was much the matter with him; consequently, we had great difficulty in keeping him in bed and making him submit to the restricted diet. He was discharged on the twenty-

eighth day, and seen about a year later was remaining quite well.

Case 2.—Charles J., æt. 16, was admitted to the Bristol Royal Infirmary on the morning of September 17th, 1906. He was working in a fitting shop when the arm of a crane swung round and struck him in the abdomen, pinning him against some railway sleepers. He was set free by the wood being sawn away from behind him. He then, to use his own expression, got up, put his hands in his pockets and walked to the office. On admission he appeared to be somewhat concussed (there was a scalp wound), and the abdominal symptoms masked; he was somewhat pale, pulse 84, and temperature 97° F. Abdominal rigidity soon appeared, and rapidly became more marked. He also became blanched, and in two hours his pulse rose from 84 to 120 per minute. When I saw him, about four hours after the accident, he was clearly suffering from internal hemorrhage. Pallor was extreme, pulse 136, restless, and much abdominal pain and tenderness, with rigidity most marked under the upper part of the left rectus. I made a probable diagnosis of rupture of the left lobe of liver or spleen, and would have operated at once, but had to wait nearly two hours to obtain the consent of the parents. Six hours after the accident I made an incision in the middle line above the umbilicus, and rapidly examined the liver and spleen, and found them normal. From amidst a large mass of blood-clot to the left I delivered a piece of intestine, jejunum I judged by its thickness, completely torn through transversely in its whole circumference, and including two to three inches of its mesentery. It might almost have been done with a pair of scissors, except that the mucous membrane was somewhat jagged. The mucous membrane was everted, and what I took to be the upper end of the bowel was filled with blood-clot. There was an artery spurting in the mesentery. There was no sign of extravasation of intestinal contents. I judged that the injury had probably been caused by the crane tearing the bowel across the spine. The bleeding vessel was ligatured, the mesentery sewn up on either side with sutures applied after Lembert's method with silk. A continuous stitch brought the mucous membrane together, and the peritoneo-muscular coats were united with continuous Lembert sutures starting on either side at the end of the mesenteric sutures and being united in the middle line. As the bowel could be delivered outside the parietes, the suturing was easy, and was performed rapidly, as the condition of the patient was precarious. No attempt was made to swab or wash out the abdomen or to remove the blood-clot. Saline fluid was run into the abdomen whilst the wound was being sewn up, and no drainage was made. For the remainder of the day the boy was extremely bad, and had rectal injections of saline, and saline infusions into the veins, nutrient enemata, and only water and brandy by the mouth. His tem-

perature rose to 100° F. the night of the operation, but there was never fever after this. For two days his condition gave rise to some anxiety from abdominal distension and rapid pulse, but after this his recovery was interrupted. He ate chicken on the ninth day, the stitches were removed on the fourteenth, and he was discharged at the end of a month. I saw him two months after, and he seemed quite well.

In addition to these two cases, I have distinct recollection of three others under the care of my colleagues during the past five or six years, two of which recovered and one died. The latter was extremely bad at the time of operation, and his abdomen was found full of fæces. I am therefore led to suppose that traumatic ruptures of the intestine uncomplicated by other serious abdominal injuries give very favourable results when operated on early. It is therefore of the first importance to make an early diagnosis. This is by no means always easy, for the symptoms may be very equivocal, and cases are on record where patients have walked long distances after this accident. I am disposed to lay considerable stress on the nature of the accident. This will be found most usually to be a sudden, well-localised blow. Of causes that have actually come under my own observation may be mentioned the following :—A kick from a horse, coming in contact with the point of a shaft of a cart whilst riding a bicycle, falling on to the handle of a pick, and being struck by the point of a pole (Case I.). There is usually initial collapse, and frequent vomiting is said to be an important symptom. When it is present I think it is so, but I don't know that I should feel inclined to lay a great deal of stress on its absence. My second case had none. The one symptom which I think is, perhaps, of more value than any other, following on such an injury as I have suggested, is rigidity of the abdomen. This may be marked or only slight, and limited to the area struck, but it is none the less of great importance. There were some who thought there was hardly sufficient indication to operate in my first case, but the nature of the accident, plus the rigidity, decided me. There was also frequent vomiting, considering the length of time that elapsed and the absence of food from the stomach. The pulse, however, was no assistance whatever, and this is not infrequently the case, whilst in another class

of abdominal conditions, notably appendicitis, it may be the best guiding sign of the serious condition of the patient. I was fortunate in these two cases in that there was no obvious extravasation of fæces in either. This was accounted for to some extent by the bowel being more or less empty, but also by the way the thick mucous membrane of the jejunum becomes everted, almost completely blocking quite a large hole. Blood-clot also helps to block the opening. My second case was of interest in that the symptoms of internal hemorrhage quite masked those of intestinal rupture, and thus made it a complicated case. The blood came from torn vessels in the mesentery. It would appear that in cases of this kind, without visible fæces in the peritoneum, it is quite safe to sew up the abdomen without drain, as is shown by my second case, and I have little doubt my first would have done equally well, but I felt a little uncertain about the suturing as it was difficult. It is also clear that it does no harm to leave a large mass of blood-clot in the abdomen. With regard to the vexed question of flushing the abdomen, I would suggest that this procedure be limited to those cases in which there is wide diffusion of fæces, and that in the other cases the locally infected area be carefully swabbed dry, with as little disturbance of the neighbouring parts as possible. Treves says, in his *System of Surgery* (1896), that the jejunum is the most common seat of rupture (two of the three other cases referred to were ileum, and the third I do not remember), that in only 16 per cent. of all cases is the rupture complete, that in about 70 per cent. there is escape of fæces into the peritoneal cavity, and that in about 15 per cent. there is a rent in the mesentery. The following results of operation are given: 24 cases of incomplete rupture with 11 deaths, and 4 cases of complete rupture with 3 deaths.

CONCLUDING NOTES ON A CASE OF SPLENOMEGALIC CIRRHOSIS IN A CHILD AGED SEVEN YEARS.

BY

EDWARD CECIL WILLIAMS, M.B. Cantab.,

Physician to the Royal Hospital for Sick Children and Women, Bristol.

TWELVE months ago I showed before this Society a boy, aged six years, with enlargement of liver and spleen, slight jaundice, stunted growth, and clubbing of fingers and toes. Abdomen was enlarged, surface veins distended. Liver dulness extended from the sixth rib to the level of the umbilicus. Spleen also much enlarged, extending within a couple of fingers' breadth of the iliac crest in the mid-axillary line; its notch could be felt on the outer border within $2\frac{1}{2}$ to 3 inches of the middle line; it was dense and smooth. No evidence of ascites, no œdema of legs, but on each leg a few petechiæ. There was nothing distinctive in the blood picture. I regarded the clinical signs as falling in with the juvenile group of cases described by Gilbert and Fournier. On March 7th, 1906, the boy was discharged improved—no jaundice, liver not diminished in size, spleen certainly smaller. His motions had averaged one or two daily; they occasionally contained blood. The urine on only one occasion contained albumin. The boy was readmitted on May 9th, 1906. Liver was two inches below costal margin and was felt to be nodular. Spleen as before. Towards the end of June he was not so well, had slight rises of temperature, was drowsy, and abdomen began to fill. There was hæmaturia and œdema of legs, with blood in the motions. His mouth was ulcerated, and there were petechiæ on the legs. During the month of July paracentesis abdominis was performed three times, and $4\frac{1}{2}$, $3\frac{1}{2}$ and $1\frac{3}{4}$ pints of fluid were withdrawn, which afforded the patient much relief. The rises of temperature and drowsiness, with petechiæ and pain in the left side, seemed to denote an extra dose of poison in the system. On August 8th

there was a slight reaccumulation of fluid, and 12 ounces were withdrawn. During September the child gradually lost ground. On October 2nd 36 ounces were withdrawn ; child was very anæmic, with a murmur over the mitral area ; skin again yellow, with traces of bile in the urine. About a month before his death he suffered from diarrhœa, with profuse watery motions, sometimes bloodstained. The motions averaged six, seven, and occasionally more a day. There was no further accumulation in his abdomen until a few days before his death, on November 27th. Leucin and tyrosin were not found in the urine. There was never any reason to suspect alcoholism, nor were there any signs of congenital syphilis. There was a doubtful history of paternal syphilis.

It is difficult to say what amount of splenic enlargement justifies the use of the word "splenomegaly." In my case the spleen seemed, when the child was first admitted, to be of excessive size. There is no doubt the spleen did diminish in size as the disease progressed. At the autopsy the spleen was found to weigh nine ounces, which is three times the average weight of a child aged seven years. The liver weighed 1 lb. 9 oz. Macroscopically it looked markedly cirrhotic, while microscopically a coarse, multilobular cirrhosis was the outstanding feature, with some increase in the number of bile-ducts. This condition cannot have anything to do with Banti's disease, which is the termination of the splenic anæmia of adults in multilobular cirrhosis and ascites. The second dentition is the earliest age at which the splenic anæmia of adults occurs, and the splenic anæmia of infants is a totally distinct affection, which seldom occurs after the age of two years. The poison may be manufactured in the intestine and conveyed to the liver by the portal vein, and thence to the spleen, or it may be introduced into the systemic circulation and have a selective affinity for the liver and spleen. There is no history of any infectious disease in my case as in some of the cases recorded by other observers.

The notes on the *post-mortem* appearances by Dr. J. M. Fortescue-Brickdale were as follows :—

The child was emaciated and jaundiced. The thyroid was

normal, the thymus was fibrotic and wasted. There were extensive pleural and pleuro-pericardial adhesions, especially on the left side in front. The left pleural cavity was, however, not completely obliterated, and contained some milky fluid, which showed no fat globules under the microscope, and coagulated readily on heating. The heart was normal; the lungs somewhat œdematous. There was a considerable amount of ascites. The small intestines were normal; there was a small recent ulcer in the cæcum, and the colon appeared thickened and œdematous. The liver weighed 1 lb. 9 oz.; it was "hobnailed" in appearance, and the left lobe was especially shrunken and fibrotic. The spleen was firm and dark; it weighed 9 oz. There was perihepatitis and perisplenitis. The kidneys were normal.

Microscopically the spleen showed some congestion of the Malpighian follicles and thickening of the capsule and trabeculæ; the liver showed a cirrhosis of multilobular type, and in places there were collections of bile-ducts in the fibrous tissue bands, but it was difficult to say that any definite increase in these existed.

From the pathological appearances it was not possible to say which organ, liver or spleen, was first affected. There was nothing inconsistent with the diagnosis of splenomegalic cirrhosis of infantile type, as may be seen by reference to the published reports of cases. Dr. Taylor's case[1] gives a very close parallel, and in Dr. Parkes Weber's case[2] a similar coarse fibrosis of the liver existed. The spleen in the present instance, though enlarged, was certainly smaller than in most recorded cases; but in Gilbert's paper,[3] cases in which the spleen is only moderately enlarged are definitely included in the group.

There was no pathological evidence of syphilis, unless we are prepared to say that *any* case of obscure fibrosis of the liver is due to this cause. The number of bile-ducts and the character of the fibrosis were not such as to suggest Hanot's disease, and, moreover, there was no leucocytosis during life.

[1] *Guy's Hosp. Rep.*, 1897, liv. 1.

[2] *Tr. Path. Soc. Lond.*, 1895, xlvi. 71. [3] *Semaine méd.*, 1900, p. 186.

ACQUIRED ANGIOMA OF THE LIVER.

BY

A. LEWIN SHEPPARD, M.B., B.S. Durh.,

House Physician to the Bristol Royal Infirmary.

THE following article includes a description of a case recently in the wards of the Royal Infirmary under the care of Dr. Shaw, to whom I am indebted for permission to publish the case.

The patient, a man of 50, was admitted to the Bristol Royal Infirmary on November 21st, 1906.

The history of his illness was as follows:—About a year ago some "yellowness of the eyes" was noticed. Five months ago he began to complain of pain over the lower part of the chest and epigastrium. Three weeks ago he became worse while at work, and had to sit down, eventually going home to bed. After a fortnight in bed, during which the jaundice became more marked, he tried to put his clothes on, but found his trousers would not meet by several inches, owing to enlargement of the abdomen. He returned to bed, and the swelling increased somewhat rapidly until admission.

Past history.—An electrical engineer at a large factory for the last 25 years, he had lived in Bristol all his life with the exception of a few months at sea. He had enteric fever four years ago. No other illness. No hæmorrhoids. Rarely missed work. He drank a good deal of whisky. Appetite good, but occasional retching in the mornings. No specific history.

Family history.—Mother died of old age at 87. Father healthy, aged 89. His wife had had eleven children, of whom ten are alive; eldest aged 23. No miscarriages.

Condition on admission.—Big, well-nourished man. Decidedly jaundiced. Temperature, normal; pulse, 90; respirations, 28. Nothing abnormal found in heart or lungs. Arteries, not markedly thickened for his age; slight œdema of legs. Urine (first 24 hours' specimen), 22 ounces, brown, s.g. 1012, cloud of albumen, bile. Abdomen, greatly distended; signs of free fluid; measurement, $43\frac{1}{2}$ inches; some large veins running upwards from lower part of abdomen; enlarged liver just felt through fluid; no pain.

Progress.—Abdomen increased in size and tension to 44 inches, when paracentesis abdominis was performed in the middle line through a $\frac{5}{16}$ inch trocar, the patient lying on his side.

Six pints, five ounces of semi-opaque fluid, typical of ascites due to portal obstruction ,was the result. The operation lasted 25 minutes, the fluid running slowly and the patient showing no signs of collapse. Immediately afterwards a nodular hard mass, the size of a tennis ball, was easily felt in the epigastrium, in consequence of which a malignant growth of the liver was suspected. The rest of the edge of the liver could not be made out. An abdominal binder was applied. This was the fifth day after admission. The following day he complained of pain in the abdomen, which now measured 42 inches, and during the following days the pain became more and more severe, the patient requiring both strychnine and morphia. Temperature, normal; pulse, feeble. This continued for nine days, when he died, the pain never having abated, and the fluid having rapidly reaccumulated.

Post-mortem examination.—Heart, normal. Vessels, healthy. Lungs, normal. Spleen, enlarged, hard and congested. Kidneys, enlarged and congested, bile stained. Pancreas, slightly harder than normal. Glands, no enlargement found, no malignant focus. No peritonitis. No angiomata found in other organs. Liver: weight 7 lb. 12 oz.; colour: brown, bile stained; capsule: adherent and of normal thickness; surface: masses of large, irregular nodules, most marked on the anterior surface, especially in the left lobe, which was enormously enlarged, and of a bluish colour, where it was soft and spongy. Antero-posterior section through the left lobe showed non-capsulated small dilatations throughout, varying in size from a pin's head to a pea; few in the posterior part, but closely packed together in the anterior segment. These dilatations contained blood, and the anterior part was discoloured and nearly black, fading posteriorly into the ordinary colour of an early cirrhotic liver. (*Vide* Fig. 1.)

Microscopical sections showed as the most marked feature a separation of the individual hepatic cells, *i.e.* intercellular spaces. In some collections of lobules this condition was exaggerated until cysts were formed, and large spaces were seen in various stages of development. In more recent ones were seen liver cells lying diffusely through the space, but the more cells so found the less distinct was the boundary of the cyst, formed as it was by the liver cells only. In the older spaces this condition was reversed, few or no cells lying within the space, but the edge was more defined, and in more marked cases the liver cells were lying concentrically, as if due to prolonged pressure. The portal systems on the whole were normal. (*Vide* Fig. 2.) In some places there was a slight appearance of cirrhosis and elastic tissue, while in isolated patches there is some small-celled infiltration around the blood sinuses throughout the lobules. The liver cells generally are neither atrophied nor damaged. Sections stained by Weigert's resorcin-fuchsin stain, in addition to the usual methods, demonstrated the absence of fibrous or elastic

tissue in the small-celled infiltration which surrounded some of the larger cysts. The cystic dilatations were principally to be observed in the area of the hepatic veins, and appeared to develop from dilatation of the lobular veins, or by extravasation into the central areas of the lobules. These areas were previously in a state of advanced venous congestion, œdema being particularly well marked. The induration stage of passive hyperæmia was missing, and its absence may account for the unusual extent of the hemorrhages which are usually associated with that condition.

According to Rolleston,[1] angiomata of the liver can be injected from the hepatic artery, or from the hepatic or portal veins.

Remarks.—The case is of interest for several reasons.

Firstly, few are recorded. Lancereaux[2] mentions 25, and Schmieden[3] 32 cases, 18 of the latter being single and 14 multiple. They are said to be commoner in men, but Thoma[4] denies this.

Secondly, they may be acquired or congenital, and have been seen in fœtuses. (They are said to be comparatively common in cats.) According to Rolleston,[5] the acquired is the commoner variety, and they are then probably due to a combination of local congestion of the hepatic vessels and atrophy of the liver cells. Usually they are quite small, and only very occasionally have large cavernous tumours been seen in adults. In two such cases angiomata were found in other abdominal viscera. Large tumours of this type are usually encapsulated. The case in question was probably acquired, for the following reasons:—The age of the patient; the definite history extending over a period of one year, with a more acute stage of about five months; the irregular character of the condition as regards capsulation, and the extremely large size of the liver, which must have been noticed had it not increased very rapidly during the periods mentioned; the complete absence of any past history of liver trouble; and also, possibly, the slightly cirrhotic condition, connected as it was with a dis-

[1] *Encyclopædia Medica*, 1900, vi. 531.
[2] *Traité des maladies du foie et du pancreas*, p. 528.
[3] *Arch. f. path. Anat.*, 1900, clxi. 373.
[4] *Pathology*, English translation by Bruce, i. 553.
[5] *Diseases of the Liver, Gall-bladder and Bile-ducts*, 1905, p. 461

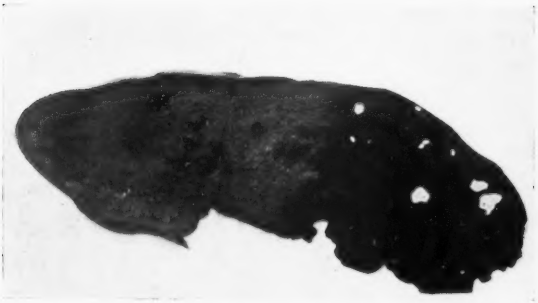

Fig. 1.

Photograph of antero-posterior section, showing darker area of angioma and spaces from which the blood has been washed out. Slightly less than half size.

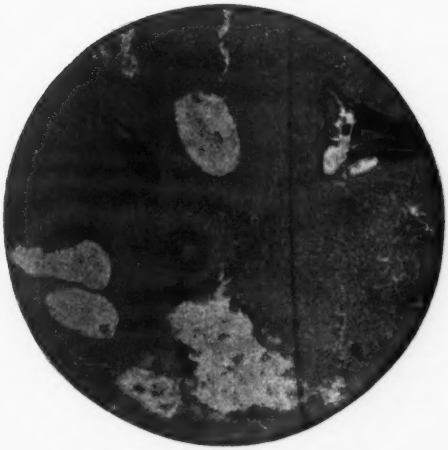

Fig. 2.

Micro-photograph of section of angioma, showing different types of blood spaces, and a portal system.

tinctly alcoholic history. The congenital condition is thought by some to be due to an excessive growth of the vascular mesoblast. The acquired type has been explained by a stagnation of blood, and congestion, which induce dilatation of the vessels with atrophy of the intervening liver cells. Some increased fibrosis takes place, so that a cavernous nævus is produced. This view is supported by Chervinsky,[1] and also by Hanot and Gilbert.[2]

The ascites, the pain, and the size of the tumour are all interesting features. The ascites possibly was accentuated by the cirrhosis also present, and the veins noticed on the abdominal wall would point to a portal obstruction that was not very recent. The pain and failure soon after paracentesis are difficult to explain, especially as the heart showed no signs of acute failure; but the feeble nature of the pulse, and the rapid reaccumulation of fluid during the last few days, suggest a large amount of back pressure from the right side of the heart, probably causing a more acute dilatation of some of the more recently formed spaces. The size of the tumour is remarkable, especially for the unencapsulated form, in so old a subject. Mantle[3] mentions a case in a man aged 33, in which the liver weighed 6 lb. 13 oz., and the angioma hung down eight inches below the anterior edge of the liver, and was of the consistency of the placenta. The left lobe in this case was normal, except for some dilated branches of the portal vein. There was also small-celled infiltration and cirrhosis throughout, but there was no bile in the urine, and only a few ounces of fluid in the abdomen. The tumour was estimated to have contained eight pints of blood, and was only diagnosed after exploratory laparotomy, when a needle being put into the swelling blood spurted out, and, in spite of suturing and plugging, the patient died in two hours.

The diagnosis of such cases has usually only been made after laparotomy or death, but the venous hum sometimes heard over the liver area has been thought to be due to this cause. Hale

[1] *Arch. de Physiol. norm. et path.*, 1885, 3 s., vi. 553.
[2] *Études sur les maladies du foie*, 1888, p. 316.
[3] *Brit. M. J.*, 1903, i. 365.

White[9] says angioma is common, but produces no symptoms during life.

Surgical treatment by electrolysis is mentioned by Keen[1] as having been performed in four cases, and Cripps has recently removed a capsulated nævus of the liver, previously diagnosed as an ossifying sarcoma, with success. In 1894 Tenedat refers to only six cases in which excision has been carried out.

I am greatly indebted to Professor Walker Hall for laboratory assistance, and for the suggestion to investigate the subject.

The accompanying photograph I took to show the cyst-like spaces, &c., as explained above. For the micro-photograph of the section I am indebted to Mr. James Taylor.

THE SANATORIUM TREATMENT OF PULMONARY TUBERCULOSIS—IS IT A SUCCESS?

BY

D. J. CHOWRY MUTHU, M.D.,

Physician, Mendip Hills Sanatorium, Wells.

SUCH a mass of literature has been written on pulmonary tuberculosis and its treatment, that I will not trouble the reader by going over any unnecessary ground, but shall confine my remarks to personal observations made during my eight years' connection with the sanatorium treatment of consumption. The pioneers of the open-air movement, most of whom are medical men belonging to various sanatoria, have cause to be proud of the success of their efforts in creating in this country a public interest in the subject. The man in the street, encouraged by the early enthusiasts of the movement, expected that everyone entering the portals of a sanatorium would be cured in a very short time. And even medical men, without giving a due consideration to the question, were led away by exaggerated reports, and pro-

[1] Allbutt's *System of Medicine*, 1897, iv. 211.

[2] *Ann. Surg.*, 1899, xxx. 276.

claimed in private and in public that a few weeks' stay in an open-air establishment would be sufficient to cure a consumptive patient. The inevitable consequence was that the results fell short of the public expectation, and discredit most unjustly fell on the whole movement.

But what are the facts ? Speaking from my own experience, I should say, to put it modestly, that in at least 50 per cent. of cases life and health are restored by the open-air treatment. That is, about half the patients of all stages that enter a sanatorium either get well completely or their disease is arrested so as to enable them to return to work.

To give a mere bald statement of figures, we have records of one hundred and fifty patients treated in my sanatorium during the first four years ending August, 1903. Of these, seventy-eight, or about 51 per cent., have been restored to health, and are following their various occupations to the present day. Surely this is a record that any treatment can be proud of, and is worth striving after.

The duration of the treatment has a very important bearing on its success. It is utterly absurd to expect, as some have done, to cure a patient or even arrest the disease in three months. There is no doubt some truth in the insinuation that the patients who have been partly patched up by the open-air treatment and return to unhealthy surroundings relapse more quickly than those who have remained in the old conditions of life, simply because half a cure is worse than no cure. A creaking door lasts longer if left alone, because everyone knows its deficiency and uses it carefully ; but it looks strong when it is half mended and painted, and the first careless knock breaks it to pieces. The open-air cure is, I am sorry to say, long and tedious, requiring infinite patience and perseverance on the part of the physician and the patient. It is Nature's cure, and Nature builds well, but slowly. The causes of failure of sanatorium treatment are mainly due to :—

(*a*) Medical men not sending their cases at an early stage.

(*b*) Patients who at the first sign of return of health go home thinking they are cured.

(*c*) Institutions which cannot keep patients for more than two to four months, and then send them back to their former unhygienic surroundings.

(*d*) Treating patients at home when no medical supervision or discipline is possible.

The most important cause of failure in my experience is that patients either have no means to continue the treatment for long, or have not the patience to persevere in the sanatorium *regime*. At the first sign of return of health they leave the sanatorium and seek more congenial surroundings. Rigid discipline, cold, absence from home and friends, &c., are unpalatable, and it is most difficult to convince patients that health can only be got back by great sacrifice, that Nature demands strict conformity to her laws. It is one of the signs of this decadent age that patients have not the strength of character or stamina to stand fast and strenuously continue in the fight with the disease.

I go further, and say that the question of arrest of the disease is more a matter of a patient's perseverance in the treatment than even whether he comes under treatment at the first, second or any stage of the disease. This may be a bold statement to make, but nevertheless it is my experience. Over and over again I have known patients who came to the sanatorium in the early stage, and who returned home too soon, partly patched up, with the result that after a few months they succumbed to the disease. On the other hand, I have known others who came to be treated in the cavity stage and with very little resisting power, but who have persevered for two and three winters, and are living now to testify to the efficacy of the open-air treatment. Of course I exclude from the present consideration those cases which seem to go wrong from the very beginning, and which get steadily worse in spite of every care and attention. We do not understand at present the laws that underlie these cases ; some day we shall. I also exclude those cases of advanced stage, where gastric functions are deranged, and the process of assimilation and excretion is poisoned by toxins and other products of pathogenic organisms. But apart from these cases, broadly speaking, the failure or success of the treatment depends more or less upon the

patient himself. In other words, the amount of vitality and fighting force determine the prognosis of almost every case. The sanatorium treatment increases the resisting force of the patient. If he perseveres in the treatment, there is every probability of his increasing his vital force and of overcoming the disease sooner or later.

On the other hand, I foresee that the sanatorium treatment will fail because patients, from lack of time or means, from lack of inclination or strenuousness, will desire to get well in a hurry, and cannot. There is no short cut to Nature's cure; she works slowly, but surely. The earth takes just as long to go round the sun as it did some hundreds of years ago, and it has found no short road yet. Various remedies have been brought forward from time to time and exploited as speedy cures for the disease, but they all have been failures so far. Nature cannot be tricked to cure a patient in this way. She proceeds step by step, line upon line, and health can only be regained by strictly adhering to her laws; and the result of perseverance is a sure and certain success in many cases.

The success of the open-air movement is not merely to be gauged by the number of lives it has been the means of saving, but in a greater degree it is seen by the way in which it opens up larger issues, and rouses the nation to see the evil tendencies of modern thought and modern life, suggesting reforms along national, social and municipal lines. Tuberculosis is one of the evils of present-day civilisation. As long as there are crowded centres like London, Manchester and Liverpool, which are breeding-places for dirt and microbes, one can never hope to eradicate consumption. It is like trying to bale out water from a ship that has sprung a leak. As fast, or faster than you can pump, the water rushes in through the hole and fills the ship. As fast as you can cure patients, their places are filled up by others manufactured by the crowded and dirty towns.

Besides, tuberculosis goes hand in hand with other evil factors in the vicious circle, viz. competition, overcrowding, poverty, drink, a life of bustle and excitement, all of which tend to keep man at high tension and irritation, giving him no time for the

recuperation of vital forces, which are necessary for the maintenance of his health. Nature not only needs time to build, but also rest and quiet to do her work. In silence she manufactures in her secret laboratories the vital energies required to maintain life's functions and duties. Mere giving attention to sanitation, or building large sanatoria for consumption, is like sprinkling carbolic powder over the leakage of drain pipes. The sanatorium treatment is only a part of a great movement which aims at going to the root of the matter. Like the ever-widening circles caused by a stone dropped into a still lake, it tends to widen the outlook and extend its reforms from one disease to the prevention of all disease, and never rests till it has taught the nation to regard the health of its citizens as a sacred heritage, which it should guard at all costs and against all enemies. Looking thus from a broad point of view, the sanatorium treatment can never be regarded as a failure.

SOME NOTES ON STYRACOL.

BY

CHARLES REINHARDT, M.D.

FOR several years after having established the Hailey Open-air Sanatorium for consumption on the Chiltern Hills in Oxfordshire, it was my principle to avoid the administration of drugs so far as possible, and, indeed, medicines were seldom employed excepting for special emergencies.

Nothing has happened to convince me that in ordinary cases of phthisis medicinal treatment in the form of drugs administered internally is of any pronounced advantage amongst patients undergoing the open-air treatment in a sanatorium. I am even inclined to the opinion that those who suffer from incidental troubles, such as dyspepsia, diarrhœa, or cough, are as a rule likely to do quite as well if drugs are withheld, excepting in unusual cases. There is, however, one medicament of which I was forced to make an exception on account of the benefit derived by patients

from its use, and that is guaiacol, which in my opinion is one of the most useful of drugs in the treatment of phthisis.

I was first obliged to arrive at this conclusion owing to an involuntary experiment. A patient—W. D.—arrived at the institution suffering from extensive cavitation of the left lung, both lobes of which were involved, the right lung being apparently free. The case was a chronic one, and had been under treatment at several other sanatoria. There was a moderate amount of cough and expectoration, but the temperature was normal, and I was able to give a fairly good prognosis. The patient had been taking guaiacol regularly, but on my advice this was at once discontinued.

It often happens that patients entering an open-air sanatorium make rapid and immediate progress, the symptoms abating and an increase of comfort and of vigour being experienced. This reaction is, of course, gratifying, even though the rate of progress is not always maintained. In the case to which reference is being made, however, the reaction or early access of improvement did not occur, to the disappointment both of the patient and myself, and for some time the condition of the former remained almost stationary, though there was a slight increase in the amount of cough, and an undoubted increase in the râles at the apex of the right lung. There was also some amount of diarrhœa. I attributed the want of apparent benefit partly to the chronicity of the case and the fact that the patient was in no sense new to sanatorium life, and partly to a certain boisterousness and excitability of temperament which he displayed. He, however, insisted that his progress had ceased when he gave up his diurnal doses of guaiacol. After six weeks had elapsed without noticeable benefit. a sudden improvement commenced, and it went on without interruption. Some time afterwards I found him in the act of taking a dose of guaiacol, and to my surprise he told me that he had recommenced the regular use of this drug six weeks after admission, which corresponded to the date when the improvement commenced.

I then sanctioned the use of the guaiacol, or rather replaced it by styracol, which I knew to be a combination of guaiacol and

cinnamic acid, free from some of the disadvantages of guaiacol, and I was pleased to find that the patient continued to make progress as long as he remained in my sanatorium. He never again suffered from diarrhœa, but he eventually made a good recovery, is now married and in good health.

This case led me to employ guaiacol, chiefly in the form of styracol, in a number of instances, almost always with encouraging results; but owing to the unpleasantness of the creosote-like flavour of guaiacol and to the tastelessness of styracol, and the fact that the latter only splits up into its components, guaiacol and cinnamic acid, when it has passed through the pylorus, I soon came to favour styracol, and to discard the use of guaiacol.

In all cases in which I suspected intestinal tuberculosis, or in which there was anything more than accidental diarrhœa, I administered styracol, and nearly always with advantage.

I also employed it in cases in which there was much cough, expectoration, or moisture in the lung, and I generally found these conditions were improved by its use.

In one instance, a patient suffering from a very large cavity occupying a considerable portion of the upper lobe of the right lung, was troubled with an extremely offensive expectoration, and a fœtor of breath which I was quite unable to assuage. The administration of styracol, however, eventually succeeded in reducing these unpleasant conditions to a remarkable extent, and if the dosage was omitted for any length of time they soon returned, though not quite to the same extent as before.

I have never found any ill effects follow the exhibition of styracol, and I have found benefits which were quite in excess of those following the administration of guaiacol in similar cases. This may be attributable to the therapeutic effects of the cinnamic acid, which is one of the components of styracol.

I have employed styracol in the form of powder and that of tablets. In the latter case I always recommended patients to bite them into minute particles, in order to secure that they should not pass through the alimentary system unchanged. The act of masticating styracol is not unpleasant, as the tablets are practically tasteless.

In my opinion styracol is one of the best available intestinal antiseptics, and its continual exhibition seems to impregnate the organism with guaiacol, so that the beneficial influence of that drug upon lung tissue undergoing necrosis is exerted to the full.

Progress of the Medical Sciences.

MEDICINE.

On the blood-glands as pathogenic factors in the production of diabetes.—Lorand,[1] in a paper on this subject, points out that a certain antagonism exists between diabetes and tuberculosis in so far that tuberculous people rarely become diabetic or gouty, although diabetic patients may become tubercular. Conditions which are associated with thyroid deficiency seem to possess a certain immunity to gout and diabetes. Bayon, of Wurtzburg,[2] and de Querrain have carried out researches which show that in all grave infectious diseases the thyroid is in a condition termed by them "thyroiditis simplex." Roger and Garnier[3] had previously demonstrated the hypersecretion of the thyroid in infectious diseases, which hypersecretion in its turn might be followed by exhaustion. In many infectious diseases symptoms arise which indicate an increase in the function of the thyroid, such as hyperthermia, tachycardia, slight exophthalmos, perspiration, and occasionally diarrhœa and diuresis. Those who inherit a good working thyroid will have a greater immunity against infectious diseases than others. Children who become diabetic are, as a rule, of bright intelligence, a symptom attributed by the author to a condition of hyperthyroidea, in contrast to the mental torpor met with in conditions of athyroidea. The sexual glands are in close relationship with the other blood-glands, especially the thyroid, which frequently shows enlargement from overfunction, as in repeated pregnancy, prolonged lactation, &c. This overfunction may be followed by exhaustion leading to myxœdema. The islands of Langerhans, like the parathyroids and adrenals, also represent blood-glands. The ordinary secreting tissue of the pancreas may be destroyed by cirrhosis without any involvement of the islands, as in an example in the Vienna Pathological Institute, in which case there was no diabetes. The author, however, considers that the absence of any pathological change in the islands of Langerhans after death in cases of diabetes may be explained by defective functionating properties of the

[1] A. Lorand (Carlsbad), *Tr. Path. Soc. Lond.*, 1906, lvii. 1.
[2] *Wurzburger Abhandlungen*, 1904. [3] *Presse méd.*, 1899.

cells, the nervous tract to the pancreas possibly being involved; for, as he points out, Pawlow has demonstrated in the dog that there exists not only a psychic gastric juice, but also a psychic pancreatic juice. Sobolew found that in animals the islands diminish in size after the administration of rich carbohydrate food, a fact which may explain why diabetes may occur more readily in those who for a long time have been on carbohydrate diet. The various blood-glands stand in close relationship one with another, changes in one being followed by changes in others. In acromegaly diabetes is frequent. In this disease the author maintains that the thyroid is altered even more frequently than the hypophysis. The changes in the latter gland he regards as secondary to those in the former. He has shown that diabetes only occurs in those cases of acromegaly which show symptoms of hyperthyroidea. While on the one hand certain blood-glands are found degenerated in diabetes, on the other the extracts of other blood-glands may produce glycosuria or diabetes. Thus the injection of adrenal extract may produce considerable glycosuria. The extract of thyroid may produce even in a higher degree than adrenal extract considerable glycosuria, and even true diabetes. According to Naunyn, Van Noorden and Strauss, diabetes only follows in such cases where there is inherited predisposition. All the symptoms of the diabetes may, however, be produced by the administration of thyroid extract. In a patient suffering from acromegaly to whom the author administered thyroid tablets, glycosuria associated with the excretion of diacetic acid and acetone had existed for eight years. Before the administration of thyroid he had no glycosuria. There is an unusual tendency to alimentary glycosuria in ordinary cases of Graves's disease, although it is rare in those cases which are passing into a condition of myxœdema. In those cases in which diabetes has been noted in myxœdema it has apparently been produced by treatment with large doses of thyroid extract. The glycosuria of infectious diseases, and that after mental emotions, is probably related to the condition of hyperthyroidea set up in these states. Similarly, the increase of glycosuria during menstruation, and the lactosuria of lactation are also probably related to hyperthyroidea. Further, Hürthle has demonstrated that stagnation of bile causes an increase of thyroid colloid, and Gans, Finkler and Exuer have found glycosuria during biliary colic. It is an interesting fact that after thyroidectomy in the goat the milk becomes poor in sugar but rich in fats. The diminution of glycosuria before death in opium poisoning, its rarity in chronic tuberculosis and cancer the author attributes to a diminution of thyroid secretion in these conditions. There have been cases of diabetes in which the sugar has disappeared after the onset of tuberculosis. The auther has observed enlargement of the

[1] *Deutsche med. Wchnschr.*, 1897, No. 12.

thyroid in cases of diabetes, although he does not regard this as necessarily proving overaction of the gland. On examining the thyroid of three dogs in the laboratory of Prof. Minskowsky, of Cologne, after removal of the pancreas, he found much enlargement of the vesicles and much colloid material. The changes in the thyroid of these dogs very much resembled the changes produced in the thyroids of fowls after meat feeding by Chalmers Watson.[1] In the early stages of Graves's disease similar changes are found in the thyroid. In Graves's disease the increased secretion constitutes a toxic agent, causing, as shown by Magnus-Levy, a decomposition of albuminous substances. This decomposition leads to the splitting off of the carbohydrate radicle, the existence of which in the albuminous molecule has been demonstrated by Pavy.[2]

If under these circumstances the pancreas happens to be in any way degenerate, sugar appears in the urine. As an example of this, in the wards of Van Noorden was a case of Graves's disease in which after a few years diabetes developed. After death calculi were found in the pancreatic duct, and the gland tissue itself was degenerated. The author concludes that there are two important factors in diabetes: (1) degeneration of the pancreas; (2) hyperactivity of the thyroid. If the pancreas alone is degenerated the diabetes will be a light one, as in the diabetes of old people due to arterio sclerosis of the pancreas, without any corresponding hyperactivity of the thyroid, for, as pointed out by Victor Horsley, the thyroid undergoes degenerative changes in old age. In young people the diabetes is more severe, because their thyroids are in good working order. The author considers that antithyroidin serum is capable of diminishing glycosuria, though he does not advocate its use in advanced cases. Diabetes will more readily occur in persons who take much meat, especially if they take large quantities of carbohydrates. Chalmers Watson has recently shown experimentally that an increased activity of the thyroid follows a meat diet.

The acetone bodies.—Diacetic acid is so readily decomposed into acetone and carbonic acid, that no satisfactory method has been devised of separating the acetone and diacetic acid quantitatively in the urine. B-oxybutyric acid can, however, be separately estimated. While small amounts of acetone may be found in the urine of comparatively healthy individuals, the excretion of B-oxybutyric acid and diacetic acid are invariably due to pathological conditions. According to Schwartz, as much as 70% of the acetone which is excreted in pathological states may be excreted by the breath, while Geelmuyden has estimated that 80—95% may be lost through the lungs. There

[1] *Lancet*, 1905, i. 347 *et seq.* [2] Pavy, *Physiology of Carbohydrates*, 1894.

[3] "The Acetone Bodies: their Occurrence and Significance in Diabetes and other conditions," T. Stuart Hart, *Am. J. M. Sc.*, 1906, cxxxii.

is no constant ratio between the amount of acetone which is excreted by the kidneys and that excreted by the lungs. The acetone bodies are formed in considerable quantities in digestive disturbances and in febrile diseases. Certain drugs increase acetone production, including benzol, antipyrin, morphine and heroin. Nervous shock and excitement have been shown experimentally to lead to an increase of excretion of acetone bodies. An effort has been made, unsuccessfully however, to find out the particular organ of the body in which the acetone bodies are manufactured. In no organ, however, has acetone been found in larger amount than could be brought to it by the circulating blood. In the laboratory the acetone bodies have been derived from proteids, carbohydrates and fats. Almost certainly in the body an abnormal destruction of fat is the main source of acetone body formation. The amount of proteid destruction as represented by the output of nitrogen, phosphates and sulphates, and the amount of the acetone bodies excreted are not parallel either in diabetes or starvation. Magnus-Levy has reported a case in which there was a metabolism of 262 grammes of proteid in three days, and yet this patient excreted 342 g ammes of B-oxybutyric acid in this period, which was more than could have been derived from the proteid. The withdrawal of carbohydrates from the diet of a normal man almost always results in an increase of acetone excretion, while the administration of carbohydrates has the opposite result. In some cases of diabetes the amount of B-oxybutyric acid varied directly with the amount of fat in the food. Large quantities of fat administered to healthy people in a mixed diet increase the excretion of acetone. An abnormal amount of acetonuria is not produced in starvation merely by diminishing the caloric value of the food. For example, a diet consisting of 1.4 litres of beer with 750 grammes of bread gave rise to no acetonuria. On the other hand, a pure proteid diet in a healthy man may cause considerable acetonuria, in which case the acetone is probably derived from the breaking down of the body fat. A pure fat diet may produce more acetonuria than starvation, the acetone in this case being derived both from the body and food fats. The amount of the acetone excretion depends to some extent on the character of the fat used. Addition of carbohydrate to any of the foregoing diets diminishes the acetone output. This reduction is exceedingly rapid, indicating that the first effect must be to furnish the conditions necessary for the complete oxidation of the acetone bodies at that time circulating in the blood. There is no parallelism between the excretion of sugar and the acetone bodies in diabetes. In this disease the main source of the acetone bodies is the imperfect metabolism of fat, which may be either the body or the food fat. As in health, the addition of carbohydrate to the diet generally results in a diminution of the acetone output, while its with-

drawal may increase the acetone excretion. However, in advanced cases there may be exceptions to this statement. Fat feeding appears to be a frequent cause of the increase of acetone bodies. Fever in the diabetic usually reduces the output of sugar, while it increases that of the acetone bodies. The loss of power of oxidation in the diabetic has been shown by Waldvogel, who injected B-oxybutyric acid subcutaneously in cases of mild diabetes, and found that the resulting acetonuria was considerably greater than in his control experiments in healthy men. In coma, while B-oxybutyric acid is always present, acetone and diacetic acid may be relatively diminished, and sugar may be absent. The author considers that diabetes should be regarded as a disease in which there is a failure of the organism not only to utilise carbohydrates, but also to utilise fats. He believes that the disorders of fat metabolism are more than a secondary result of the diabetic's inability to assimilate carbohydrates, and that there is a direct perversion of the metabolism of fat. From the therapeutical aspect, since nervous irritation, excitement, hunger and fever all favour the production of the acetone bodies, they should as far as possible be avoided. Similarly, general anæsthetics should be avoided, and, if absolutely necessary, the starvation before and after should be a minimum. The withdrawal of carbohydrates should be carried out gradually, and the amount of fat which can be used without setting up acetonuria should be carefully watched. In selecting fatty foods, those containing the higher fatty acids should be chosen, since those containing the lower acids increase more markedly the production of the acetone bodies. If in spite of these precautions diacetic acid and B-oxybutyric acid are found, we must resort to the administration of alkalies. Simon, of Carlsbad,[1] has met with success in removing acetonuria in three cases by giving Parmesan cheese in amounts up to 3½ ounces daily. He recommends this cheese in cases where the exclusion of fats, particularly butter, has been unsuccessful in relieving this condition.

J. R. CHARLES.

SURGERY.

Bier's method of treating tubercular joints by the production of passive hyperæmia can hardly be described as a new subject, inasmuch as it has found a place in current text-books for the last ten years. But owing to the fact that the treatment was long and tedious, it was never received with much enthusiasm in this country, and it probably never received the trial that it deserved. But during the past year Professor Bier has communicated to the German Surgical Congress, and also to the

[1] "Treatment of Acetonuria of Diabetes by the Ingestion of Parmesan Cheese," *La Semaine méd.*, 1905, No. 36.

Münchener medicinische Wochenschrift,[1] a very much extended scope for this treatment, viz. to all forms of acute inflammation, and already in Germany and America other surgeons who have tried it declare that it is of very great value.

During the past thirty years the attention of surgeons has been so much occupied with the elaboration of the principles discovered by Lord Lister, and of the operations that these antiseptic principles have made possible, that every other method of treatment has been regarded as of little importance. The prevention of infection and of suppuration has claimed so much attention, that the treatment of infected or inflamed tissues has been very little thought of. Of course, nothing can ever supersede the importance of preventing infection and suppuration of tissues, but, nevertheless, such infection will always occur, and it is a matter of great importance if any method can cut short the process and minimise its evil results. Now this is what is claimed for the method of artificial hyperæmia. As opposed to the old anti-phlogistic school, who regarded all inflammation as bad and hurtful, Bier's view is that inflammation is the natural cure of infection, and therefore should be encouraged. But although the principle underlying its application to tubercular and to inflammatory cases is no doubt the same, the method of its application is so different in the two classes of case that it will simplify matters if they are described separately.

In the case of tubercular joints, artificial congestion has been applied successfully[2] to all except the hip. A rubber bandage is wound round the limb at as great a distance from the joint as possible, and over a layer of gauze. In the case of the shoulder, the bandage is kept in place by calico strips round the neck and round the chest. The amount of constriction to be applied is a matter of great importance. The arterial supply as estimated by the pulse should not be altered, but the veins so compressed that the return of blood is hindered, and a congestion occurs below the bandage. The temperature of the part should be raised and not diminished. The bandage remains in its place for one to two hours daily, and the treatment of a case of moderate severity occupies from four to six months. If the bandage be left on too long in these cases acute inflammation is apt to supervene, and suppuration occur, and it is very important to bear this in mind in distinguishing between the treatment of tubercular and acute inflammatory cases.

It is not the primary object of this paper to deal with the tubercular cases, but in order to give completeness to the subject it may be well to briefly mention some recent publications which indicate the results of passive congestion as applied for these

[1] *München. med. Wchnschr.*, 1905, lii. 201, 263, 318; also Bier's "Hyperämie als Heilmittel," 1905.

[2] *Lancet*, 1905, i. 1091.

conditions. Habs[1] gives an account of 200 tubercular joint cases in which he used this method. Whilst all varieties of the disease may show improvement, yet he recognises certain well-marked differences in various groups of cases. Thus children react much better than adults. Mild chronic cases do better than acute ones. Cases of pure synovial disease, when there is no affection of the bones, are those in which the results of the congestive method are the best. The elbow, wrist, knee and ankle all give good results, but the shoulder has also been successfully dealt with. Now it is evident from these observations that Bier's method is of the greatest value in just those cases which would in any case be treated by expectant rather than operative measures. Therefore it is not so much a question of choosing between operation or passive hyperæmia, as of simply adding the congestive treatment to other methods of non-operative procedure. In the knee, however, although the cases may improve for a time, a large proportion ultimately require operation. In early cases of wrist and ankle disease the method is of particular value, because it is in these that mere immobilisation so often fails. In fact, Bier[2] recommends that in early cases the joints should not be kept at rest, but that passive movements, preferably carried out in a hot-water bath, should be regularly employed. Tubercular cases in which the skin is broken or in which there is any septic complication, are not suited for the treatment, for although artificial congestion is used both for septic and tubercular affections, it has to be applied in a different manner in each case, and therefore cannot be employed when the two conditions co-exist. Ullmann[2] reports three cases of tuberculous testes successfully treated by Bier's method. A rubber band was bound lightly round the base of the penis and scrotum for half to one hour daily. In these cases the tuberculous disease had infiltrated the skin, and in all of them the pain and discharge were lessened, and the tubercular infiltration became smaller and softer, whilst the patients gained in weight. One would like to know the further history of these cases. Polyak[3] has tried the method with most gratifying results for tuberculosis of the larynx. The rubber band is applied as low down in the neck as possible, but quite lightly so as not to cause any inconvenience to breathing. The relief of pain is said to be the first and most striking result, and is the safest criterion of the amount of good which is likely to be gained by persisting in the treatment.

But it is **the application of artificial congestion to acute inflammatory lesions of all kinds**, *e.g.* a whitlow, a carbuncle, osteomyelitis or suppurative mastoiditis, that constitutes the more recent chapter in the history of surgical progress. Bier himself

[1] *München. med. Wchnschr.*, 1903, l. 938; abstract in *Edinb. M. J.*, 1903, N.S., xiv. 359.

Lancet, 1905, ii. 1737. [3] *Edinb. M. J.*, 1906, N.S., xx. 183.

began to apply his method in such cases as long ago as 1893, but it was only last year that his work was fully published, and his results corroborated by other observers.

In these cases the actual constricting agent is applied in the same way as above described, but it is allowed to remain in position for very much longer, that is to say for 20 to 22 hours out of the 24 For such a condition as a whitlow in the hand, the bandage is applied to the upper arm, for inflammation of the foot it is applied to the lower part of the thigh. Again, in striking contrast to the best conditions in tubercular cases is the fact that the more acute the inflammatory lesion is, the better result does the congestive treatment give. The pressure of the band should be very light, but soon after its application the limb becomes a fiery red, which spreads from the original focus right up to the bandage itself. Then, too, the whole becomes swollen and œdematous, and if any incisions exist they pour with serous exudation. The position of the bandage is changed every ten hours, and in the short intervals between the periods of constriction the limb is raised to favour absorption of the œdema.

As soon as the congestive reaction has set in the patient feels a great relief of pain, the pulse becomes slower and more regular, and the temperature falls. The temperature rises, however, between the periods of constriction, but this, which is marked at first, soon becomes much less, until in about three to six days a normal mean is maintained. If suppuration occurs the pus must be let out, but the incisions need not be so free as would ordinarily be the case. Of course, if septicæmia or pyæmia has already developed this treatment is of no avail, except in hastening the resolution of any particular focus. Cathcart[1] gives a summary of Bier's recent papers with some of his cases, and adds a number of his own personal observations at the Edinburgh Infirmary. The scope of the method is well shown by the following typical examples of large groups of cases.

Suppression of commencing suppuration.—On April 8th, 1904, the left wrist of a woman of 60, who had a septic wound of the breast, became inflamed, with a rigor and temperature rising to 103° F. Passive congestion applied for 20 hours daily cured the condition in three days, the pain, heat and raised temperature disappearing.

Transformation of acute into cold abscess.—This is a rare occurrence. A boy of 7 was admitted on July 28th with an acute abscess in the lower end of his thigh. An exploratory syringe drew off thick pus containing staphylococci. Under passive congestion the inflammation had gone by July 30th, and the raised temperature fell to normal. The abscess remained as a cold, fluctuating swelling. On August 5th a 1 c.m. long incision was made into it, and the pus pressed out without further opening. It healed by August 9th. This transformation of acute into

[1] *Scottish M. and S. J.*, 1906, xviii. 302.

chronic abscesses is not, however, to be waited for or expected as a routine. It is better to open abscesses at the time the congestion is first applied.

Suppurating surfaces.—In these the pus at first becomes more abundant, but thinner. Very shortly the pus ceases, sloughs are thrown off, and other parts recover which would have necrosed under ordinary treatment. And the suppurating process becomes definitely limited, instead of spreading. Inflamed joints and all kinds of arthritis have been successfully treated, but the more acute cases seem to show more brilliant results than the chronic ones, *e.g.* osteoarthritis. In joints containing pus only a diagnostic puncture is made, but the joint is neither opened nor drained. The part is kept at rest, but the joint is not immobilised, but, on the contrary, is subjected to gentle passive movement as soon as the passive congestion has produced a cessation of pain. A man of 18 was admitted seventeen days after a septic wound which had penetrated the left elbow-joint. The joint was red, swollen, painful, and fixed at a right angle, and pus could be squeezed plentifully from the wound. In three weeks' congestive treatment the joint had recovered and the fistula healed. Within another month he had a freely movable joint. A man aged 20 was admitted with acute suppuration in his right knee, the origin of which was unknown. All the typical signs of acute suppurative arthritis were present, including rigor and a high temperature. The syringe withdrew pus containing living staphylococci. After twelve days' treatment the temperature was normal, the swelling was less, the pain had ceased, and the patient could flex his knee to a right angle. The fluid in the knee was now turbid serum. He recovered the complete use of the knee-joint, so that he was taken as ward attendant at the clinic.

Suppuration in tendon sheaths.—In these cases it is important to make incisions directly pus is formed, but these need only be stab incisions, and no packing or draining is required. Pus pours from them readily enough when congestion is applied. A butcher of 43 had a wound of the little finger which had infected the tendon sheaths and cellular tissue up to the elbow with acute lymphangitis. Temperature was 102.1° F., and he was very ill. After four days' treatment all the local inflammation had gone, the temperature was normal, and after a few tendon sloughs had escaped the wounds healed, and he had good use in his hand except for a little stiffness of the finger. Out of 22 cases of tendon sheath suppuration, 14 recovered without sloughing. And the extraordinary and almost incredible rapidity of the cures are in marked contrast to the tedious course of such cases when treated by the old methods.

Acute osteomyelitis.—Bier has had 14 cases of acute osteomyelitis, of which 6 recovered with no necrosis, 5 with very little necrosis, 2 with extensive necrosis, and 1 died of pyæmia.

Gonorrhœal arthritis.—A married woman of 38, who had been infected with gonorrhœa some time previously, was attacked by typical acute arthritis of the right knee-joint. For a month rest, extension, fomentation and drugs were tried without avail, but within fifteen minutes of the application of the rubber bandage to the thigh the pain was easier, and in a few weeks she was able to walk about with a somewhat stiff knee.

Of course, in many cases disappointment follows the method, as in these it proves inefficacious, but if carefully applied to suitable cases it does not do harm, and with practice and experience its scope will greatly increase.

Besides the elastic bandage, various kinds of suction apparatus may be used, and Dr. Klapp, Professor Bier's assistant, has devised a number for use in different positions of the body. For example, in the case of acute mastoid disease a suction cup may be placed over the mastoid region, in addition to or instead of a band round the neck.[1] Bier states that if this is done, only a small puncture into the mastoid antrum is necessary, and the case quickly recovers with good functional results in 60 per cent. of his cases. Polyák[2] has used a suction cup for tonsillar and pharyngeal inflammation, but finds that a band low down in the neck will give great relief to such diverse conditions as nasal catarrh, pharyngitis, maxillary suppuration, or laryngitis. Rudolph[3] has devised a suction apparatus which can be applied to the cervix for inflammatory conditions of the uterus, and he reports very good results from its use.

Whilst the majority of observers are agreed as to the wonderful results obtained by passive congestion, yet there are some who have not had such good results. Bardenheuer, who is now a firm believer in the method, had very bad results from it until he was instructed in its method of application by one of Bier's assistants. Lexer[4] declares it to be merely "a game of chance" as to whether the inflammatory processes will be checked or spread by its use, and he states that he has found that it produces an extension rather than a limitation of suppuration in cases where the parts are unopened. But if incisions are made first, then even this observer admits the great value of the congestion. Stettiner[5] points out how suppurating cavities and sinuses with small mouths may be made to heal without enlargement by suction hyperæmia. This is of great value in treating abdominal fistulas or stitch abscesses. Sick[6] remarks, and other observers, including Bier himself, agree with him, that there are certain well-marked groups of cases in which the treatment should not be applied, because in them it is likely to do positive harm. These are:—Rapidly-spreading strepto-

[1] *Ann. Surg.*, 1906, xliv. 729. [2] *Loc. cit.*
[3] *Centralbl. f. Gynäk.*, 1905, xxix. 1185. [4] *Ann. Surg.*, 1906, xliv. 731.
[5] *Ibid.*, p. 734. [6] *Ibid.*, p. 730.

coccal infections, including erysipelas, inflammatory lesions in diabetes, varicose or congestive ulcers, and thrombo-phlebitis.

As to the mode of action of this treatment, we know little or nothing. The very rapid relief of pain, occurring generally in a few minutes to half an hour, must have a mechanical explanation, and Bier suggests that it is due to anæsthesia produced by the rapid œdema. The great effusion from the vessels of the part must flood the inflamed tissues with serum, leucocytes and opsonins, and it is possible that in this manner the invasion by micro-organisms is overcome. But in inflammation which results from chemical irritants the method is equally successful. It is of value in this connection to note the experiments of Perthes,[1] who injected strychnine solutions into animals' limbs, and found that by the use of a constricting band the supervension of toxic symptoms could be prevented, or so much delayed that the animal would survive a dose which would have killed it if it had been delivered into the free circulation. At any rate, it is impossible to rise from a perusal of the recent writings on this subject by so many different authors without feeling that a great addition has been made to our methods of treating common forms of disease. And it certainly involves the necessity of our making a personal study of the question, so that our patients may not be deprived of what may be a most valuable aid to recovery.

E. W. Hey Groves.

PATHOLOGY.

The Pathology of to-day falls easily into three great divisions —morbid anatomy, bacteriology, and chemical pathology. The morbid anatomist is the one faithful to old traditions, belonging to the cave-dwellers who see things dimly while lingering over the minutiæ of dead bones and tissues; the bacteriologist is the adventurer who leaves old memories behind and soars into the unknown ether on the gossamer wings of Ehrlichism; the pathological chemist is the pacemaker who, while unravelling the constitution of substances, provides the necessary armament for the morbid anatomist and the chemical details for the bacteriologist. May a fourth class be added—the clinical pathologist, that *rara avis* who sometimes exchanges the coat of the laboratory for the plumes of the consultant!

Convulsions.—McIlraith[2] has just concluded an examination of 250 cases of convulsions occurring in infancy and childhood. He finds that predisposing causes play a more important part than do the exciting causes. The chief predisposing causes are "an inherited neurotic taint," and rickets. The chief exciting causes are those connected with gastro-intestinal disorders. Convulsions are by no means as frequent as generally supposed

[1] *Ibid.*, p. 732. [2] *Medical Chronicle*, 1906–7.

at the onset of acute fevers, such as measles and pneumonia. They are more common at the onset of pneumonia than at the onset of measles.

In children suffering from convulsions there is frequently a history of ill-health or disease in the parents, especially in the mother during pregnancy, and this acts by lowering the vitality of the child and rendering it more liable to disease.

Only in a very small proportion of cases convulsions can be ascribed to injury at birth, or to organic disease of the brain. In early life convulsions may be the first sign of epilepsy, or may give rise to that condition in later life, but distinct epilepsy is more likely to supervene when there is no obvious cause for the early convulsive attacks.

Dentition is rarely a cause of convulsions, and only when some predisposing cause exists. *Cherchez l'intestin* appears to be a golden rule for infantile convulsions.

Tumours.—Among the countless hypotheses which, like the many airships, rise only to fall again, the relation of trauma to the site and ætiology of sarcomatous changes has been strongly advocated by a number of recent writers. "*Ohne trauma, ohne sarcoma*" is the utterance of one enthusiast. Many clinicians could cite cases which appear to support this contention. The point of view depends on the interpretation of the word "trauma." Hardly a day passes without the occurrence of knocks—physical or mental—and imagination frequently aids the note-taker. Nevertheless, though the idea will rapidly receive its quietus from writers sufficiently vigorous to talk it down, yet there is much in it. Incidentally, Sternberg has just published his work on *Trauma in Internal Diseases*, and we are again reminded that pathological changes are not concluded when the scar tissue covers over the external wound. Whether it be lung, liver, kidney, or bones, the seat of once damaged tissues must always be regarded with suspicion. There is ever the possibility of growth, or malnutrition, to think of in connection with an injury.

Fæces.[1]—The clinician looks always at the fæces—preferably through a telescope or the glass wall of a closed vessel—and his assiduity is sometimes rewarded by the observation of unusual appearances. Diagnosis may frequently be assisted by more systematic investigations. Here are a few points culled from several recent papers on the subject.

The insufficiency of the functions of the stomach are best gauged by the amount of connective tissue in the fæces.

The extent of the deficiency of pancreatic digestion may be determined by the amount of nuclein in the fæces. This should be supplemented by estimations of the fat, but in itself is a very useful sign.

Pancreon is a preparation of pancreas tissue. If steatorrhœa

[1] *Centralbl. f. Allge. Path.*, 1906.

or azotorrhœa disappear after its administration, then it is probable that pancreatic functions are suspended.

Tuberculosis.—Many recent works[1] have been directed to the paths of the infection in tuberculosis. It is declared that the chief avenues are via the bronchi by inhalation, and the pharynx by swallowing. The tubercle bacilli readily passes through mucous membranes without leaving any evidence of its passage.

Schlossman affirms that tuberculosis is, in the greater number of cases, a disease of childhood. Infection may occur by means of tuberculous food, but this is a rare occurrence compared with that of infection from man. The child inhales air containing tubercle bacilli, or touches infected material with the finger, and, placing the latter in the mouth, is thereby contaminated. As many as fifty per cent. of adults show signs of tuberculosis before they are fully developed. The mortality amongst children is very great, and the fight against infection of children through parents and relations is a field which offers a prospect of great success in not only reducing the child mortality from tuberculosis, but also in reducing the numbers of those adults whose latent, oft-times unsuspected tuberculous conditions are a source of danger to the community, as well as a death-warrant to themselves.

I. WALKER HALL.

Reviews of Books.

A Guide to Diseases of the Nose and Throat, and their Treatment. By CHARLES A. PARKER, F.R.C.S. Edin. Pp. xiv., 624. Illustrated. Edwin Arnold. 1906.

A very practical exposition of diseases of the nose and throat, and their treatment by methods advocated at the Golden Square Throat Hospital, founded on lectures delivered at that hospital, has been written by a surgeon whose experience enables him to speak with authority, and this volume is sure to prove very valuable to all practitioners and students. It is clearly written, well illustrated, and well printed, although amongst the illustrations many will be recognised as old acquaintances, and some are distinctly poor, and not worthy of a modern text-book. Throughout the book the numerous formulæ for local pigments, sprays and applications will be found of service in practice. The very clear and detailed description of most of the technical methods now very frequently adopted by English laryngologists must prove helpful to those whose earlier studies of the speciality require to be kept abreast of the times, and hardly any page can be read by such without gleaning some point of value.

[1] "Reports of Hague Congress for Tuberculosis," 1906, in *Centralbl. f. Allge. Path.*, 1906.

at the onset of acute fevers, such as measles and pneumonia. They are more common at the onset of pneumonia than at the onset of measles.

In children suffering from convulsions there is frequently a history of ill-health or disease in the parents, especially in the mother during pregnancy, and this acts by lowering the vitality of the child and rendering it more liable to disease.

Only in a very small proportion of cases convulsions can be ascribed to injury at birth, or to organic disease of the brain. In early life convulsions may be the first sign of epilepsy, or may give rise to that condition in later life, but distinct epilepsy is more likely to supervene when there is no obvious cause for the early convulsive attacks.

Dentition is rarely a cause of convulsions, and only when some predisposing cause exists. *Cherchez l'intestin* appears to be a golden rule for infantile convulsions.

Tumours.—Among the countless hypotheses which, like the many airships, rise only to fall again, the relation of trauma to the site and ætiology of sarcomatous changes has been strongly advocated by a number of recent writers. "*Ohne trauma, ohne sarcoma*" is the utterance of one enthusiast. Many clinicians could cite cases which appear to support this contention. The point of view depends on the interpretation of the word "trauma." Hardly a day passes without the occurrence of knocks—physical or mental—and imagination frequently aids the note-taker. Nevertheless, though the idea will rapidly receive its quietus from writers sufficiently vigorous to talk it down, yet there is much in it. Incidentally, Sternberg has just published his work on *Trauma in Internal Diseases*, and we are again reminded that pathological changes are not concluded when the scar tissue covers over the external wound. Whether it be lung, liver, kidney, or bones, the seat of once damaged tissues must always be regarded with suspicion. There is ever the possibility of growth, or malnutrition, to think of in connection with an injury.

Fæces.[1]—The clinician looks always at the fæces—preferably through a telescope or the glass wall of a closed vessel—and his assiduity is sometimes rewarded by the observation of unusual appearances. Diagnosis may frequently be assisted by more systematic investigations. Here are a few points culled from several recent papers on the subject.

The insufficiency of the functions of the stomach are best gauged by the amount of connective tissue in the fæces.

The extent of the deficiency of pancreatic digestion may be determined by the amount of nuclein in the fæces. This should be supplemented by estimations of the fat, but in itself is a very useful sign.

Pancreon is a preparation of pancreas tissue. If steatorrhœa

[1] *Centralbl. f. Allge. Path.*, 1906.

or azotorrhœa disappear after its administration, then it is probable that pancreatic functions are suspended.

Tuberculosis.—Many recent works[1] have been directed to the paths of the infection in tuberculosis. It is declared that the chief avenues are via the bronchi by inhalation, and the pharynx by swallowing. The tubercle bacilli readily passes through mucous membranes without leaving any evidence of its passage.

Schlossman affirms that tuberculosis is, in the greater number of cases, a disease of childhood. Infection may occur by means of tuberculous food, but this is a rare occurrence compared with that of infection from man. The child inhales air containing tubercle bacilli, or touches infected material with the finger, and, placing the latter in the mouth, is thereby contaminated. As many as fifty per cent. of adults show signs of tuberculosis before they are fully developed. The mortality amongst children is very great, and the fight against infection of children through parents and relations is a field which offers a prospect of great success in not only reducing the child mortality from tuberculosis, but also in reducing the numbers of those adults whose latent, oft-times unsuspected tuberculous conditions are a source of danger to the community, as well as a death-warrant to themselves.

I. WALKER HALL.

Reviews of Books.

A Guide to Diseases of the Nose and Throat, and their Treatment. By CHARLES A. PARKER, F.R.C.S. Edin. Pp. xiv., 624. Illustrated. Edwin Arnold. 1906.

A very practical exposition of diseases of the nose and throat, and their treatment by methods advocated at the Golden Square Throat Hospital, founded on lectures delivered at that hospital, has been written by a surgeon whose experience enables him to speak with authority, and this volume is sure to prove very valuable to all practitioners and students. It is clearly written, well illustrated, and well printed, although amongst the illustrations many will be recognised as old acquaintances, and some are distinctly poor, and not worthy of a modern text-book. Throughout the book the numerous formulæ for local pigments, sprays and applications will be found of service in practice. The very clear and detailed description of most of the technical methods now very frequently adopted by English laryngologists must prove helpful to those whose earlier studies of the speciality require to be kept abreast of the times, and hardly any page can be read by such without gleaning some point of value.

[1] "Reports of Hague Congress for Tuberculosis," 1906, in *Centralbl. f. Allge. Path.*, 1906.

Indications for Operation in Disease of the Internal Organs. By Professor HERMANN SCHLESINGER, M.D. Authorised English Translation by KEITH W. MONSARRAT, M.B., F.R.C.S. Pp. xv., 498. Bristol: John Wright and Co. 1906.

This book is written essentially for the practitioner, in order to enable those who are not in hospital practice to arrive at an independent opinion on the advisability of operation in cases of internal lesion. In each chapter there are remarks on etiology, pathological anatomy, clinical course, diagnosis, and differential diagnosis, to give a general grasp of the condition under consideration, and a small selection from the literature is also added at the end of each chapter.

Being written by a physician, it is the more valuable from the surgical point of view; for though the writer is clearly in sympathy with surgical methods under the circumstances defined in the various chapters, he is nevertheless guided by a clear judgment in recommending operation only in such conditions as have failed to respond to medical treatment, or are clearly unsuitable for it. The statements are concise, and the end in view is clearly and definitely stated. We consider it a most useful book for those in general practice who are often in doubt as to the necessity of calling in a surgeon.

A word of praise and thanks must also be accorded to the translator, who has so ably put into English a work which it is highly desirable should be possessed by many who have not a sufficient knowledge of German to read the original.

Syphilology and Venereal Disease. By C. F. MARSHALL, M.D., M.Sc., F.R.C.S. Pp. x., 509. London: Baillière, Tindall and Cox. 1906.

Dr. Marshall's book on syphilis is one of the most valuable monographs that has appeared of recent years. Inspired avowedly by the discovery of the *spirochæta pallida* by Schaudinn and Hoffmann in 1905, and accepting under reserve their claim for this as the specific organism of the disease, yet so complete is the study of syphilis in all its bearings, that were the part played by the spirochæta proved to be something less than at present appears likely, still Marshall's work must remain a very valuable landmark in the field of scientific literature. The inclusion of a complete bibliography of classical and modern authorities stamps the book as indispensable to the scientific investigator, while the concise and exhaustive description of syphilis from every standpoint is set out with such impartial judgment and wealth of detail that no practitioner can afford to leave the book unread.

The subject is one that intrudes itself into every malady;

and the effects of syphilis, its relationships, whether clinical, psychological or sociological, in the individual or the species are of such overwhelming moment, that so helpful a contribution to our knowledge deserves from the critic nothing but commendation.

Although the modern developments of science are fully dealt with, the style in which they are expounded does not require any very extraordinary pathological knowledge to be appreciated by the reader: even one who is not in close touch with modern laboratory methods will find himself informed, not puzzled, by Dr. Marshall's chapters in this province.

The experimental work upon *inoculation* both in man and monkeys is adequately described, and throws fresh light on the infectivity of the disease, not only as regards the length of time during which the acquired form may remain communicable, but also as to the transmission of the inherited taint.

Marshall summarises the evidence in favour of the spirochæta pallida as the specific organism of syphilis thus:—

"1. It has been found almost constantly in the primary and secondary lesions whether ulcerated or not.

"2. It has also been found in the blood.

"3. The same parasite has been found in widely-separated countries.

"4. It has been found in the blood and viscera of the syphilitic fœtus.

"5. It has been found by Metchnikoff and Roux in the syphilitic lesions of monkeys inoculated both with human virus and virus from other syphilitic monkeys.

"6. It has not been found in man or monkeys apart from syphilitic lesions."

The only one of Koch's postulates not complied with so far is that the spirochæta pallida has not yet been cultivated out of the body. But the other evidence certainly seems incontrovertible that this is actually the specific cause of syphilis.

Unfortunately, although this conclusion may be accepted, all efforts hitherto made to discover a method of preventing the infection by immunisation or treatment have been in vain.

Even hereditary syphilis has proved no protection against the acquisition of the disease in later life by the ordinary means of infection.

The *clinical manifestations* and *treatment* are described with a fulness to which we can only refer with admiration, in the hope that a closer study of the recent improvements in treatment may lead to their wider adoption and the ultimate removal of the reproach under which the medical profession at present (perhaps justly) lies, that in England syphilis is frequently untreated and always inadequately.

The so-called *parasyphilitic lesions*—that is, diseases which owe their origin to, but do not depend upon any pathological change characteristic of syphilis, occupy a very important place

in the book on account of the valuable researches of Mott, Ferrier, and others.

Hereditary syphilis and the proved possibility of transmission to the third generation form perhaps, together with the advances in pathology, the most interesting reading that Dr. Marshall affords. The summary of facts observed in connection with the inheritance of the disease is well worth quoting:—

"1. That the degenerative effects of syphilis are frequently transmitted to the third generation, and possibly further, only to die out with eventual sterility.

"2. That, although difficult to prove, the transmission of virulent hereditary syphilis to the next generation is possible, and depends chiefly on two factors, *time and treatment*. . . . The reason why such cases are not more common lies in the fact that comparatively few subjects marry while suffering from hereditary syphilis in an active state.

"3. That re-infection of a heredo-syphilitic genitor increases the virulence of the disease and its fatal effects on the offspring.

"4. That the two chief obstacles to actual proof of transmission to the third generation are the possible re-infection of the second generation and the possible intervention of another syphilitic genitor. . . . For although a child is obviously the offspring of its mother, paternal parentage is seldom capable of scientific proof.

"5. That the hereditary transmission of syphilis is one of the chief factors in physical, mental and moral degeneration."

Hereditary syphilis is insisted upon as essentially contagious, and to belittle this fact is a dangerous doctrine.

Syphilis is described as the hereditary disease *par excellence*, its hereditary effects are more inevitable, more multiple, more diverse and more disastrous in their results on the progeny and the race than is the case in any other disease. It has, in fact, a more harmful influence on the species than on the individual. Dr. Marshall acknowledges his indebtedness to the teaching of Fournier and his disciples; we in turn must with no less gratitude confess to the debt which we owe to the English exponent of their doctrines.

An Introduction to the Study of Colour Phenomena. By JOSEPH W. LOVIBOND. Pp. 48. London: E. and F. Spon. 1905.—This small volume is apparently an extension of the author's previous work on *The Measurement of Light and Colour Sensations*. To the former material has been added a new colour theory and a more elaborate system of colour nomenclature. With the description of the apparatus designed for measuring and recording colour sensation in quantitative terms the interest which the writer commands is exhausted. By the combination of single sensation colours (red, yellow and blue),

in thin glass plates, the tint of which is arbitrarily regarded as a standard unit, varying depths of a particular colour and differing shades may be imitated. As an instance we may quote, two blue plus two red develop two units of violet; that is to say, white light transmitted through two thicknesses of the unit blue glass and the unit red produces two units of violet colour for purposes of merely empirical comparison; this is interesting, and may be useful. No scientific basis for his standard is suggested by Mr. Lovibond. As a practical method it is attractive in its simplicity. The author's analytical colour charts form an excellent means of recording in a simple form the results of investigations with his "tintometer," and the application of these charts to the hæmoglobinometer earned for him a medal at the St. Louis Exposition of 1904. When, however, the new colour theory is expounded we are at a loss to see any reason for substituting a clumsy "six-ray" theory for the accepted "three-ray," and the writer does not bring forward any arguments that make good his claim to the discovery of a simpler or more satisfactory explanation of colour phenomena. Nor do numerous highly-coloured, solid, geometrical figures make up for a total absence of all references to rates of vibration and wave-lengths in the production of varying colour sensations.

Studies in Blood Pressure: Physiological and Clinical. By GEORGE OLIVER, M.D. Pp. 151. London: H. K. Lewis. 1906.—These two lectures, on the physiological and clinical aspects of blood-pressure measurement, are likely to be of much service at a time when clinical hæmomanometric methods are engaging so much attention. This little book may be regarded as a text-book by one who has been the pioneer on the subject of hæmomanometry, and whose clinical observations are most trustworthy.

Manual of Medicine. By T. K. MONRO, M.D. Second Edition. Pp. xxii., 1022. London: Baillière, Tindall & Cox. 1906.—The second edition of this manual has been subjected to a thorough revision throughout, and a good deal of new matter added, bringing the volume thoroughly up to date. Additional illustrations have also been introduced. Although the work is longer than its predecessor, it is not unduly voluminous, and we have failed to find any omissions of importance.

The Treatment of Diseases of the Digestive System. By ROBERT SAUNDBY, M.D. Pp. viii., 133. London: Charles Griffin & Co., Ltd. 1906.—The most essential part of this booklet is the introduction, an essay of forty-one pages on the personal experience and views of a physician of large and mature experience on a subject on which many volumes have been and may still be written. The subsequent chapters on diseases of the œsophagus, stomach, intestine and rectum, are such as might be culled from any text-book. A short essay on

symptomatic diseases, and a long list of formulæ of the ordinary type complete the volume, which is not likely to enhance the reputation of its already distinguished author.

Minor Maladies and their Treatment. By LEONARD WILLIAMS, M.D. Pp. vii., 383. London: Baillière, Tindall & Cox. 1906.—This volume of 383 pages is a reprint from various sources of lectures given at the Medical Graduates' College and Polyclinic. They must have served a very useful purpose, and are quite worthy of reproduction in book form, inasmuch as much of the contents can only be learned by prolonged experience, and is not to be found in the text-books. The subjects are of every-day interest and utility, ranging from the common catarrh up to insanity, and many well-tried formulæ are scattered through the text. These are at the present time of increasing use, inasmuch as few students learn the elements of prescribing, and are too prone to adopt the unscientific combinations of the manufacturing druggist, for whose benefit they are commonly made rather than for the patient.

Uric Acid: Chemistry, Physiology and Pathology. By FRANCIS H. MCCRUDDEN. New York: Hœber. 1906.—To an inquiry as to the time of publication of his masterpiece, an author humorously replied, "The head is on the perineum." Such a phrase could never have been applied to this book. True, it exhibits the traces of tedious labour, but there is not a spark of life within its pages, there is nothing which stimulates the mind or widens the imagination. It is a machine-made book pure and simple. To borrow a phrase from the greener isle, "It was killed at conception." For the preface, with engaging frankness, states that the publication is made because there is no complete and reliable account of the metabolism of uric acid to be found in one place. Completeness, reliability—life is short—are to compensate for vivacity, purpose, interest. But such a programme is too extensive for even machine-made books. Were one to be hypercritical, several errors in chronology and omissions of work could be pointed out. It is not necessary to do this, for with a book of this kind it is impossible to approach perfection. Do not, however, take our diatribe too seriously. Provided that it is necessary for anyone to refer to the uric acid literature, then this book will save much searching. In the States it even might assist spelling, and that is saying much for an American book. But as the practitioner does not care to search for literature since he receives the *Uric Acid Monthly*, without cost or intermission, and prefers to confine his spelling errors to his prescriptions, the book then hardly appeals to him. To whom then shall it be recommended? The physiologist, the pathologist, the librarian, the book lover, the collector for posterity? All these—poor souls in more senses than one—will rejoice over this triple essence of uric acid research and conjecture. Possession

will mean satisfaction—and, after all, what better does life provide? In this way the author may not have laboured in vain.

On Retro-peritoneal Hernia. By B. G. A. MOYNIHAN, M.S., F.R.C.S. Second Edition. Revised and in part rewritten by the Author and J. F. DOBSON, M.S., F.R.C.S. Pp. vi., 195. London: Baillière, Tindall & Cox. 1906.—Since the first edition of this work was published in 1899 a good deal of anatomical work has been done in this subject, which has been duly incorporated in the present edition. It is fully illustrated, and there is a complete bibliography of the different varieties of hernia met with in this region. The book is certainly one of the best accounts which we have in English on this serious affection.

The Extra Pharmacopœia of Martindale and Westcott. Revised by W. HARRISON MARTINDALE and W. WYNN WESTCOTT, M.B. Twelfth Edition. Pp. xxx., 1045. London: H. K. Lewis. 1906.—Nearly 250 pages of new matter have been added, and every care has been taken to make the work as complete as possible. The authors urge rightly that it is time that the practice which has grown up of burdening the prescriber with metric equivalents to grains, drachms, and ounces should be dropped in favour of metric terms only, which involve far less mental calculation, and hence involve very much less likelihood of error. They also urge that it would be of general advantage if the English term minim were abandoned: a drop might be considered as $\frac{1}{20}$ of a cubic centimetre, or about $\frac{1}{8}$ of a minim.

The Care of Children. By ROBERT J. BLACKHAM, Capt. R.A.M.C. Revised and enlarged edition. Pp. xi., 84. London: Scientific Press, Ltd. 1906.—Truly the times have changed from those when Kingsley could describe the army doctor as one who thought a baby's inside much the same as that of a Scotch guardsman. This excellent little book is written with a view of helping to educate mothers and nurses in the simple but essential principles of infant hygiene, by one who has been impressed with the extremely disastrous results which are occurring all over this country owing to the well-nigh universal ignorance of the populace concerning this subject. Captain Blackham, who writes from the Military Families' Hospital, Devonport, has evidently a very practical knowledge of his subject. He does not preach any new doctrines, but merely sets down in clear and convenient form the accepted teaching on infant feeding, clothing and general hygiene. The book seems sound in every respect, and carefully prepared to meet a very real want. We trust it may have a wide circulation among those for whose use it has been written, and may help to diminish the terrible infant mortality rate about which so much is talked, though comparatively little is done to diminish it.

Editorial Notes.

University College Colston Society.

THE annual meeting of this Society, held on January 11th, under the presidency of Sir William Selby Church, Bart., K.C.B., gave another opportunity for setting forth the claims of the city for the establishment of a Bristol University. The occasion was a notable one, inasmuch as the Lord Mayor of London (Sir William P. Treloar) was entertained as a guest, and, further, it was the first occasion on which the Master of the Society of Merchant Venturers had been present. The Lord Mayor of Bristol and the Sheriff were present, also the Vice-Chancellor of the University of Oxford, the Bishop of Hereford, the Right Hon. Henry Hobhouse, and Sir William R. Anson, Bart., M.P., and many distinguished citizens. The President spoke of Edward Colston's association with St. Bartholomew's Hospital, to which he had been a generous benefactor, and then gave some details of the early history of the Bristol Medical School, and of the distinguished men who had been associated with it, and he trusted that the spirit of Edward Colston might still operate in our midst in furtherance of the establishment of a University for the West of England.

Mr. Henry Hobhouse spoke of the value and need of local Universities, free from the trammels of compulsory Greek, to concentrate their attention on the scientific and modern training, but, he hoped, on the classical side, always ready to seek and obtain aid and inspiration from their older sisters. He spoke of the distinguished career of Sir William Anson, and said it was the fashion in these days to decry University representation. He thought it was a sufficient answer to point to the fact that during the last ten years the Universities had sent to the House of Commons five such men as Lecky, Lubbock, Michael Foster, Jebb, and Anson.

Sir William R. Anson, M.P., dealt with the question of the value of University Colleges under the present educational conditions.

The Vice-Chancellor of the University of Oxford (T. Herbert Warren) admitted that he was a convert to the idea of local and civic Universities. At first he thought it was a pity and a danger to multiply Universities, but he had come to see that that was by no means the case, and that they must bring Universities home to the doors of the people in the large gatherings of population in the great cities. He advocated a University in Bristol for two reasons—because he thought Bristol was the right place for it, and that it would do good to Bristol. They ought to have a University of their own in Bristol, because Bristol was a most admirably-situated place. With its surroundings, the historic associations, the poetry, so to speak, mingling with the prose of commercial prosperity, it was a place filled with opportunities for the education and elevation of the mind, apart from its geographical position. He thought that Bristol might fairly claim to be the next University College to take the rank of a University.

Principal Lloyd Morgan said they looked forward to the time when Bristol would not lightly let distinguished men leave her. They had lost good men in the past, but he hoped they would learn more and more to secure the services of men who came to work with them. At present the College was placed in a difficult position, and he had often been told in America that the position in Bristol was almost impossible. They were preparing students for examinations in which they had no voice, and over which they had no control. The aim and object of education was to bring the individual into vital touch with his environment—into practical touch with his environment. Alluding to the work of the future Bristol University, the speaker pointed out that Bristol was in the midst of agricultural districts. In developing the subject of agriculture, they proposed to have as a beginning one or two professors who were strong both on the scientific and the practical side, and who would be ready to place their knowledge at the disposal of all those interested in the question in the West of England. They would have a strong advisory board, and had been promised the assistance of distinguished experts.

The University Ideal.

PROFESSOR G. H. LEONARD, speaking, February 4th, on "The University Ideal, a chapter from Mediæval History," remarked that, in reference to the prospects of a University for Bristol, one of the greatest things that University would have to do would be to train the imagination of man. Imagination, however, must have something whereon to build, and it was his object to tell, as simply as he could, what a University was, what the Universities of England and Europe had been. The scholar wanted the master, and he found at the University, not only the master, but other students, and the mind was thus sharpened by contact with other minds. In Bristol the University College had always given a cordial welcome to foreigners, the Frenchmen, Germans, and Dutch, and those who hailed from more distant parts and made their home amongst them for the time. He hoped these foreigners would learn something from us, and he wanted them to realise that much was to be learned from them. Many in Bristol believed the University of Bristol, with a colour and character of its own, would attract many foreigners to our city, who would come here, it might be, to study commercial geography, agriculture, literature, or some special school of medicine they would make their own.

* * * * *

Prof. Sadler on a University for Bristol.

AT the annual distribution of prizes to the students of the Merchant Venturers Technical College, on December 21st, 1906, Professor Michael E. Sadler made a powerful appeal on behalf of a University for Bristol. In the course of his address he remarked that the characteristics of all the new Universities in England were these. Each had one centre for its work. The federal system, by which a University was, so to speak, like a three-legged stool, was, so far as our country was concerned, practically given up. They got more life, more vigour, more municipal pride, more local character if they had a University representing one great city. It was, secondly, characteristic of all those Universities that

the examinations should follow the teaching, instead of the teaching being subservient to the examinations, and there was the wise provision by which there was an external and independent examiner. The third characteristic was that they regarded provision for research as absolutely indispensable for the educational vitality of the institution. No teacher could teach properly unless he himself was going on learning. The fourth characteristic was that the Universities were open, without let or hindrance, to men and women of all ranks and all sorts, and, so far as their resources permitted, they would teach anything which the locality thought it was desirable to have taught, and not only in the daytime. One of the great problems we had to face in this country was to enable men who had entered work to take their degree by a systematic series of evening courses. It was a difficult work, because they could not work a competent teacher by day and night; but it was a problem we had to face and to solve. In this connection he could not but recall to their recollection that in that city, unless he was mistaken, were the first beginnings of that adult school movement, more than one hundred years ago, which, for his own part, he regarded, through its spirit of brotherliness and common service, as perhaps the most remarkable of all the educational movements of our time in this country. But large resources were indispensable to a modern University, and the one thing which made him hesitate in laying this suggestion before them was that he could not disguise from them the fact that year by year the efficiency and maintenance of a great University became more and more expensive. The country would not gain by the establishment of Universities, weak because ill endowed and ill equipped with the right kind of teachers, or with the necessary laboratories and libraries and other buildings which the social life of a great University required. If they took a survey of University life, they realised how elastic things were. They might practically build a University according to the local need, and adjust its organisation to the different requirements of the different districts, but it was highly important, where possible, to unite in one institution the component parts of their University.

Union was good for administrative purposes; it was good for the interchange of thought between student and teacher; it was good for the discipline—a much more important part of modern University life than was generally realised; and it was good for future growth, because a single institution appealed more to the imagination, to the State, to the locality, and to the good wishes of the intending benefactor. They wanted one Council, one professional Senate, one academic head. But under these circumstances variety was possible within wide limits. As, for example, at Sheffield, where the Technical College, though an integral part of the University, had its own special traditions and its own history. A great University in Bristol would be the crown of the educational system of the city and district. What we had learnt in the last few years in England had been that national education was one thing from top to bottom with good primary schools, first-rate secondary schools, and great Universities, and, through their reciprocal influence and need, indispensable the one to the other. A University here, well endowed, would furnish Bristol and its neighbourhood with a succession of men fitted to hold the most responsible posts in the scientific enterprise and organisation of modern industry and commerce. And the rapid growth of Bristol encouraged the hope that its citizens would ere long emulate the example of Manchester, Liverpool, Birmingham, Leeds, and Sheffield, and other great cities in building up a modern University. The intellectual influence of a University here would make Bristol, as it used to be in old days, the lantern of the west. The great historical part of Bristol, and of the West Country, would be an inspiring influence in the work of its University. As Burke—perhaps the greatest name connected with Bristol—said, "Our country is an ancient tradition into which we are born." It was our business to blend the old with the new, and a University was one of the centres in which that work could be carried on. And, apart from its intellectual resources, each great city University ought to have halls of residence, in order that the students might enjoy the characteristic benefit of English academic tradition, namely the social training which one got from the give and take on

equal terms of collegiate life. And our aim should be to give the rising generation of Englishmen and Englishwomen the best possible opportunity of physical and intellectual training that the world could offer—something which would strengthen and deepen character and fortify will. And we could aim at nothing higher than that the outcome of our education should be fairness of mind combined with capacity for decisive action.

* * * * *

Sir Michael Foster.

THE scientific world has sustained a great loss in the death of Sir Michael Foster, K.C.B., F.R.S., D.C.L., M.D. Lond. He possessed a vigorous personality, and as Professor of Physiology at Cambridge for twenty years has exercised a vast influence over the science which has become so completely transformed since the time of Bowman and Carpenter. The scientific development of Physiology in this country has been mainly due to Foster and his pupils, and the University of Cambridge and the Royal Society owe much of their present prestige to the mind and work of the late Member for the University of London. The following personal reminiscences have not been in print elsewhere, and are worthy of record :—

An archæological friend writes : " I well remember a pleasant midsummer day at Cambridge, some years ago, spent in the company of Professor Michael Foster, on the invitation of an intimate friend of his. He met us at the station, and devoted the whole day to showing us the colleges ; he did not seem to care much for the antiquities of the place, and rather treated the subject with subdued scorn. Pointing to the saints in the windows, he said, ' Perhaps they will have me up there one day.'

" At that time he held strong radical views, which he rather impressed on me by saying, with reference to the old saying, ' Whatever is, is right ; ' but I say, ' Whatever is, is wrong.' I was much struck with his genial humour, giving way now and again to peals of laughter.

" After dinner he sent his man to row us on the Cam. He told me that he had been with the Professor for many years,

his duty being to anæsthetise the animals for vivisection. He never knew one single case of an animal being allowed to suffer pain, for the animal was always unconscious before the operation began, and was always despatched before it could recover consciousness."

* * * * *

Cerebro-spinal Fever.

THE spread of the mysterious and fatal malady known incorrectly as "spotted fever" is causing considerable alarm. Professor Osler states that in New York there have been nearly four thousand cases within the last two years, and that as many as three thousand have been fatal. The necessity for anticipating precautions of comprehensive character is never more evident than in the case of the possible invasion of a district by a comparatively unknown disease. Hence we have endeavoured to give a brief outline of what is known of the disease in an article (page 14) compiled by the Medical Officer of Health for Bristol in conjunction with the Pathologist to the Bristol Royal Infirmary, describing some of the latest known of the salient points in regard to the causation, prophylaxis, and treatment of this disease, and it is hoped that by united action on the part of the profession and of the public authorities, any introduction of cerebro-spinal fever in epidemic form may be promptly averted or checked.

Meantime the name of the disease is of some importance. The term cerebro-spinal meningitis is too comprehensive, inasmuch as it includes all forms of meningitis. The term spotted fever was formerly used as synonymous with typhus, and should still be retained for this disease, in which petechial spots are always present, rather than for a disease in which they are commonly absent. It seems more than likely that many of the earlier epidemics of so-called spotted fever may have been really typhus. Although we rarely see typhus fever now, its name, spotted fever, should not be attached to a malady of which the pathology and bacteriology are totally different.

* * * * *

Pathogenic Organisms.

WITHIN the last few months a considerable amount of work has been done upon the metabolic reactions of staphylo-, strepto- and diplococci. The results attained appear to have a practical bearing upon the diagnosis and treatment of infectious conditions, and we hope to present a résumé of the researches and their applications in our next issue.

Notes on Preparations for the Sick.

Colalin ; Colalin Laxative.—T. MORSON & SON, London.—These two preparations are in tablet form, the dose of colalin being half a grain, one tablet to be taken three or four times a day. It is considered to be pure cholalic acid, an amorphous powder, insoluble in the stomach, but soluble in the upper intestines, from whence it is absorbed, as no traces of cholalin are found in the fæces. It is believed to stimulate the liver and cause an increased flow of bile.

The laxative tablet contains a combination of cholalin with the anthraquinone principle of cascara. These bile preparations are said to be of genuine therapeutic value in cases of functional affections of the liver ; the promoters of them state that they may be absolutely relied upon to stimulate the flow of bile, and more especially to convert an abnormal viscous bile into a normal and viscid one. In one case the effect of this tablet on the bowels was found to be insignificant.

Liquid Somatose.—BAYER CO. LIMITED, 19 St. Dunstan's Hill, London, E.C.—This preparation is introduced for the convenience of those who find the powdered somatose troublesome to dissolve. The nutrient properties are mainly due to the presence of proteoses and alkali albumen ; the unsweetened solution gives no precipitate on boiling, but a dense precipitate on addition of an acid, which completely disappears on heating, and reappears on cooling. The biuret reaction gives a pink colour, with dilute solutions. There are two varieties of Liquid Somatose, a sweetened and unsweetened, the latter being available for diabetics, and the former recommended for children. Both are quite palatable, and the former may be added to soup or beef-tea without spoiling the flavour of these dishes.

Formamint Tablets.—A. WULFING & Co , 83 Upper Thames Street, London.—Formamint is a chemical combination of formic

aldehyde with lactose. The tablets dissolve readily in the mouth; they produce an abundant flow of saliva, which, containing formic aldehyde, has an effective antiseptic action in the throat. They are considered to be the best substitute for gargles, and as they are to be dissolved slowly in the mouth, their action is likely to be much more prolonged. They are quite palatable and non-irritating, so that they may be readily taken by children, and should be effective in all cases of sore throat when a non-irritating antiseptic is desirable.

Tabloids: Guaiacol Camphorate, gr. v.; **Calcium Lactate,** gr. v.; **Pectoral Pastilles.**—BURROUGHS, WELLCOME & Co., London.—The Guaiacol Camphorate Tabloid should be a convenient form of administration of two useful drugs in cases of phthisis. The guaiacol has deservedly established a reputation, and in its combination with another drug also of established reputation, camphoric acid, its value should be greatly enhanced.

Calcium Lactate is employed to increase blood coagulability, which has been shown to be deficient in cases of urticaria and other affections. Its administration has proved successful in the treatment of urticaria, chilblains, certain forms of albuminuria, headache, and serum rashes. It is also employed in aneurism and in various forms of hemorrhage, including the hemorrhagic form of small-pox; as a preventive and curative in hæmophilia, in uterine hemorrhages, and preliminary to surgical procedure. "Tabloid" Calcium Lactate presents a convenient and satisfactory means of administering a calcium salt. Calcium Lactate is now preferred to the chloride, which has sometimes been found to produce disturbance of the alimentary canal. This tabloid is non-irritating, readily soluble and easily absorbed. One or more may be taken twice or thrice daily for two to three days.

"Tabloid" Pectoral Pastilles contain ammoniated liquorice, squill, tolu, senega, ipecacuanha, wild cherry, etc. They afford a palatable and convenient means of exhibiting aromatic, expectorant, demulcent and sedative principles. Slowly dissolved in the mouth, these pastilles exert a prolonged and uniform effect on the respiratory tract. They relieve cough, check excessive secretion, and soothe the irritated mucous membrane. They should be valuable in colds, hoarseness, and bronchial affections.

Phenofax.—BURROUGHS, WELLCOME & Co., London.—This antiseptic surgical dressing contains 7 per cent. of pure phenol in a bland basis. It may be applied on lint, or may be used as an ointment in parasitic skin diseases. It is also suitable for application to affected mucous surfaces, more especially ulceration of the cervix uteri.

Soloid—Eosin-azur.—BURROUGHS, WELLCOME & Co., London. —We have examined this "Soloid." Each soloid contains 0.015 gm. of Giemsa's stain, and is dissolved in 5 c.c. of pure methyl alcohol. When the staining directions are properly followed, the results are thoroughly satisfactory. These "soloid" stains are most convenient for use, and are reliable as regards their staining properties.

The Library of the Bristol Medico-Chirurgical Society.

The following donations have been received since the publication of the List in December:

February 28th, 1907.

J. Paul Bush, C.M.G. (1) .. .. 5 volumes.
Medical Officer of the London County Council (2) .. 1 volume.
Middlesex Hospital (3) .. .. 1 ,,
The Pathological Society of London (4) .. .. 2 volumes.
The Council of the Royal College of Physicians of London (5) .. .. 1 volume.
Scholastic Trading Company (6) .. .. .. 1 ,,
James Swain, M.D. (7) .. .. 1 ,,
The Director of the U.S. Census Report (per W. Roger Williams) (8) .. .. 2 volumes.

Unbound periodicals have been received from Mr. Paul Bush and Dr. James Swain.

SIXTY-THIRD LIST OF BOOKS.

The titles of books mentioned in previous lists are not repeated.

The figures in brackets refer to the figures after the names of the donors, and show by whom the volumes were presented. The books to which no such figures are attached have either been bought from the Library Fund or received through the *Journal*.

Bérard, A. Poncet et L. *Traité clinique de l'Actinomycosis humaine* 1898
Buxton, D. W. *Anæsthetics* .. .. 4th Ed. 1907
Catalogue of Accessions to the Library of the Royal College of Physicians of London .. .. (5) 1906
Catalogue of the Pathological Museum of the University of Manchester 1906
Cathcart, C. W. *The Essential Similarity of Tumours* 1907
Clubbe, C. P. B. *Intussusception* 1907
Encyclopedia and Dictionary of Medicine and Surgery. Vol. III. .. 1907
Haab, O. .. *Atlas of the External Diseases of the Eye* (Ed. by G. E. de Schweinitz) .. .. 2nd Ed. 1906
,, .. *Atlas and Epitome of Operative Opthalmology* (Ed. by G. E. de Schweinitz) 1905
Hartmann, H. *Les Anastomoses intestinales* .. .. (1) 1906
Hewitt, F. W. *Anæsthetics and their Administration* .. 3rd Ed. 1907
Hurdon, H. A. Kelly and E. *The Vermiform Appendix and its Diseases* 1905
Keetley, C. B. *The Prevention of Cancer* 1907

Kelly and E. Hurdon, H. A. *The Vermiform Appendix and its Diseases* 1905
Klein, E. .. *The Bacteriology and Etiology of Oriental Plague* .. 1906
McCaw, J. .. *Aids to the Treatment of Diseases of Children.* 3rd Ed. 1907
Moynihan, B. G. A. *Abdominal Operations* .. .. .. 2nd Ed. 1906
Needlandicorum, Opuscula Selecta. De Arte medica. Fasc. I. .. 1907
Owen, E. .. *Cancer: its Treatment by Modern Methods* 1907
Palmer, Margaret D. *Lessons on Massage* .. .. 3rd Ed. 1907
Poncet et L. Bérard, A. *Traité clinique de l'Actinomycosis humaine* 1898
Richardson, H. *The Thyroid and Parathyroid Glands* 1905
Ritchie, R. P. *The Early Days of the Royal Colledge of Phisitians, Edinburgh* .. .. (1) 1899
Savage, W. G. *The Bacteriological Examination of Water Supplies* 1906
Sutton, J. B. .. *Tumours, Innocent and Malignant* .. .. 4th Ed. 1906
Swanzy and L. Werner, H. R. *Diseases of the Eye* .. .. 9th Ed. 1907
Taves, A. W. .. *The Etiology and Diagnosis of Epidemic Cerebro-Spinal Meningitis* 1906
Wallace, F. C. *Surgery of the Rectum* 1907
Weber, Sir H. and F. P. *Climatotherapy and Balneotherapy* 1907
Werner, H. R. Swanzy and L. *Diseases of the Eye* .. .. 9th Ed. 1907
Whiteford, C. H. *Glimpses of American Surgery in* 1906 1906
Whiting, A. .. *Aids to Medical Diagnosis* 1907

TRANSACTIONS, REPORTS, JOURNALS, &c.

American Association of Obstetricians and Gynecologists, Transactions of the .. .. Vol. XVIII. 1906
American Dermatological Association, Transactions of the 1905
American Journal of Obstetrics, The .. .. Vol. LIV. 1906
American Ophthalmological Society, Transactions of the Vol. XI., Part 1 1906
Archives of the Middlesex Hospital .. .. (3) Vol. IX. 1906
Association of American Physicians, Transactions of the Vol. XXI. 1906
Boston Medical and Surgical Journal, The .. .. .. Vol. CLV. 1906
Bristol Directory, Wright's 1907
British Almanac, The 1907
British Medical Journal, The .. .. Vol. II. for 1906
Clinical Journal, The .. .. Vol. XXVIII. 1906
Edinburgh Medical Journal, The .. .. Vol. XX. 1906
Epidemiological Society of London, Transactions of the Vol. XXV. 1906
Gazette des Hôpitaux 1906
Gazette hebdomadaire des Sciences médicales de Bordeaux Tom. XXVII. 1906
Glasgow Medical Journal, The .. .. Vol. LXVI. 1906
Hazell's Annual 1907
Hospitals—
Boston City Hospital, Medical and Surgical Reports of the .. (7) 1905
Guy's Hospital Reports .. .. Vol. LX. 1906
St. Bartholomew's Hospital Reports .. .. .. Vol. XLII. 1907
Journal of Tropical Medicine, The .. .. Vol. IX. 1909
Lancet, The .. .. Vol. II. for 1906

London County Council, Annual Report of the Medical Officer of the, for 1905 .. .. (2) 1906
Medical Chronicle, The .. .. 4th Series, Vol. XI. 1906
Medical Directory, The 1907
Medical Press and Circular, The .. .. [Vol. CXXXIII.] 1906
Medical Review, The .. .. Vol. IX. 1906
Montreal Medical Journal, The .. .. Vol. XXXV. 1906
Nord médical, Le 1906
Nordiskt Medicinskt Arkiv 1905
Odontological Society of Great Britain, Transactions of the Vol. XXXVIII. 1906
Ophthalmological Transactions .. .. Vol. XXVI. 1906
Otological Society of the United Kingdom, Transactions of the Vol. VII. 1906
Pathological Society of London, Transactions of the (4) Vols. LVI., LVII. 1905—1906
Practitioner, The .. .. [Vol. LXXVII.] 1906
Progrès médical, Le .. .. Tom. XXII. 1906
Progressive Medicine .. .. Vol. IV. 1906
Publishers' Circular, The .. .. (6) Vol. LXXXV. 1906
Revue hebdomadaire de Laryngologie .. .. Tom. XXVI. 1906
Sanitary Record, The .. .. Vol. XXXVIII. 1906
Scottish Medical and Surgical Journal, The .. Vol. XIX. 1906
Society for the Study of Disease in Children, Reports of the Vol. VI. 1905—1906
United States, Twelfth Census of the, 1900 .. .. (8) Vols. III., IV. 1902
West London Medical Journal .. .. Vol. XI. 1906
Whitaker's Almanack 1907
Year-Book of Scientific and Learned Societies, The 1906
Zentralblatt für Chirurgie 1906
Zentralblatt für Gynäkologie 1906

MEETINGS OF SOCIETIES.

Bristol Medico-Chirurgical Society.

December 12th, 1906.

Mr. JAMES TAYLOR, President, in the Chair.

Dr. E. C. WILLIAMS showed a **Case of Rheumatoid Arthritis** in a girl aged twelve.

Dr. B. M. H. ROGERS showed (1) A **Child of two years of age weighing only seven pounds**, and (2) A case of **Optic Neuritis of sudden onset.**

Dr. ROGERS also read notes of a case of **Narcolepsy.**—Dr. A. RENDLE SHORT compared *petit mal* and its persistence to the disease under consideration.—Dr. STACK said the condition suggested that induced by mesmerism, and asked if the pupil

had been contracted in the sleep or not. In the mesmeric state he thought the pupil was not contracted, though it was in somnambulism.—Dr. ROGERS replied that the sleep looked like ordinary sleep.

Mr. E. W. HEY GROVES read a paper on **A New Method of Fixation in Excision of the Knee-joint.** The apparatus devised and recommended by the speaker consisted of iron rods, which were passed from side to side through the femur and through the tibia. The projecting ends of these were braced together on each side by two more rods having screw ends. The apparatus fixed the bones immovably together. It was advisable to make a mortise and tenon junction of the femur and tibia. He had used the apparatus successfully in four cases.—Mr. J. LACY FIRTH said the difficulty in fixing the bones in this operation was greater in proportion to the youthfulness of the patient and the softness of the bones, and asked if the speaker's patients had been children or adolescents. He thought that the bones might rotate on the rods passed through them, though he had not actually tested the apparatus, especially if the bones were soft, as was often the case. He had found that steel pins, passed from the tibia into the femoral condyles, crossing one another as they passed from the outer tuberosity of the tibia to the inner condyle, and from the inner tuberosity to the outer condyle, were satisfactory, unless the bones were very soft.—Mr. GROVES replied that his apparatus could be screwed up, so that the femur and tibia were tightly braced together and could not move upon each other. None of the patients had been very young, and three of them twenty years of age or more.

Dr. E. C. WILLIAMS read the concluding notes on a case of **Spleno-megalic Biliary Cirrhosis** (*vide* p. 43). The patient had been shown to the Society a year previously.—Dr. FORTESCUE-BRICKDALE showed the organs obtained at the *post-mortem* examination of the case, and microscopical sections.—Dr. MICHELL CLARKE, from an examination of the specimens, thought the case had not been one of biliary cirrhosis. The specimens looked more like those in ordinary cirrhosis of the liver. It was difficult to deny that the specimens were like those in Banti's disease. Intestinal poisons might cause cirrhosis as well as alcohol.—Dr. WALKER HALL said the microscopical specimens suggested Banti's disease. Some fissures on the right lobe of the liver suggested that the cirrhosis was syphilitic. The sections showed capsular and interlobular cirrhosis.—Dr. CAREY COOMBS thought the changes in the liver were the result of irritation, transmitted to the organ by the bile ducts, systemic arteries, or portal vein. There appeared to be no evidence that the bile ducts or the artery had been the channels of conduction. The cirrhosis was very like the alcoholic form, and the poison had probably come from the intestinal tract through the portal vein.—Dr. WILLIAMS,

in reply, said there might be no jaundice in the juvenile type of the disease. By Banti's disease was meant the terminal stage of splenic anæmia of adult type, in which affection the spleen was the first organ to be affected. The child was too young for that, the disease having begun at four years of age. The splenic anæmia of infants is a totally different disease. No results had been observed from anti-syphilitic treatment in the case. Salicylate of soda had done most good.

Dr. KENNETH WILLS read a paper on **Eighty Cases of Lupus Vulgaris treated by Radio-therapy.**

January 9th, 1907.

Mr. JAMES TAYLOR, President, in the Chair.

Dr. CHARLES read notes on a case of **Multiple Myelomata and Albumosuria.**—Mr. ROGER WILLIAMS pointed out that myelomatosis occurs without albumosuria. Albumosuria was not the disease, it was a secondary phenomenon. Such cases as that described were formerly called multiple sarcomata of bone. It seemed clear that the disease was not sarcomatous, and likely that it belonged to the leucæmic class of diseases, and, like those, was due to an infective agency. The disease had affinities with Paget's osteitis deformans.—Dr. MARKHAM SKERRITT pointed out that not much was known about albumosuria and its causation. It was sometimes met with in pneumonia. He had met with an example of albumosuria in a medical man which persisted for twelve months. Later serum-albumin was found in the urine, with signs of chronic interstitial nephritis. Ultimately the patient died of acute pneumonia.

Dr. MICHELL CLARKE read a paper on **Some Complications of Pneumonia.**—Dr. COOMBS referred to four cases of pneumococcic peritonitis of which he was cognisant. Three of them had been apparently primary. Of these, two children and one adult had recovered. It would be interesting to know whether the affection was more often primary or secondary.—Mr. CARWARDINE mentioned a case of diplococcic peritonitis he had met with. The child developed pneumonia after the peritonitis was established.—Dr. E. C. WILLIAMS mentioned two cases of pneumonia with complications he had treated. In one delusional insanity had arisen. The second was complicated with hiccough, which lasted four or five days, and nearly killed the patient. Obstinate hiccough used to be a more common complication than it was now. In his case morphia had been ineffectual as a remedy.—Dr. MARKHAM SKERRITT mentioned a case of pneumonia in which thrombosis of the pulmonary artery carried off the patient.

Drs. WALKER HALL and CAREY COOMBS demonstrated various macroscopical and microscopical pathological specimens.

February 13th, 1907.

Mr. JAMES TAYLOR, President, in the Chair.

An address was given by P. H. PYE-SMITH, Esq., M.D., F.R.C.P., F.R.S., on **Prognosis** (*vide* p. 1).

Obituary Notices.

HERBERT W. KENDALL, F.R.C.S.

BY the death, on December 23rd last, of Mr. H. W. Kendall, of Redland, the profession has lost a colleague who, both as a student and practitioner, was characterised by steadfast integrity of character and aim. He passed away at the early age of 39, after an illness of three weeks' duration, the end coming suddenly from pulmonary thrombosis dependent on lung trouble, following an attack of appendicitis, and at a time when he was showing signs of apparent recovery; his sudden death was a termination somewhat unexpected by his friends, and by the several medical and surgical colleagues who anxiously attended him.

As a general practitioner, he spared no time or pains for rich and poor alike. It was his very nature to be thorough in his work and kind in his ways, denying himself at the call of duty, and gaining the esteem of both patients and colleagues.

For several years past he was Honorary Surgeon to the Bristol Royal Hospital for Sick Children and Women; he was an able operator, and was much respected by the staff, committee, and nurses. His death will be a great loss to that institution, which he served so faithfully and well. He was also Medical Officer to the Maternity Home, and to the Surgical Aid Society; and, though holding several public appointments, he performed the duties of all thoroughly and creditably.

Mr. Kendall started practice in Bristol in 1895, after holding the posts of House Surgeon to the Great Northern Hospital, and of House Surgeon and Obstetric Officer to the Middlesex Hospital, where he studied in London. He leaves numerous professional and lay friends to mourn his loss.

ALFRED SHEEN, M.D. St. Andrews, M.R.C.S. England, D.P.H. Cantab.

BORN at Leicester in 1839, and educated at Hurstpierpoint, Alfred Sheen found the routine of a Civil Service appointment at Madras uncongenial, and in 1856 he entered the Madras Medical College, where he carried off many prizes, and found time to be a leading member of the Madras Cathedral choir. Yet unqualified, he returned to England in medical charge of a large ship. His student days were completed at Guy's Hospital, where he obtained

the Physical Society's prize for an essay on "Dysentery." In 1862 he qualified. In the following year the "Guyite Club" of 1863 was founded, of which he remained a member to the time of his death. Alfred Sheen's life work in Cardiff began in 1864, when he was appointed House Surgeon to the Cardiff Infirmary, at that time a small institution of some thirty beds. The House Surgeon was not only in charge inside, but also had to visit sick in the town, patients of the charity, and act as Secretary and General Superintendent. In this, his earliest work in Cardiff, Alfred Sheen acquitted himself well, displaying that abundant energy and power of work which were so characteristic of all his after life. He it was who first organised the "Infirmary Balls," ever since a successful annual function. In 1866 private practice was commenced; marriage and appointment to the Infirmary Honorary Staff followed shortly afterwards. Active practice was continued for forty years; indeed, to within a month of his death.

During his many years as Surgeon to the Cardiff Infirmary Alfred Sheen showed the greatest zeal, thoroughness and industry in his surgical work. He gave much time to the institution, and in the earlier days, when actual operations were not so numerous, much of the "case-taking" and dressing was done by his own hands. His perfect ambidexterity was a feature of his operating. The writer recalls best his transparent pleasure at the rapid and successful completion of an ovariotomy, and the slow, painstaking and methodical way in which he would dissect out a mass of tuberculous glands from the neck. Naturally at a time of change numerous innovations and additions were due to him; *inter alia*, he was the first to displace "antiseptic" by "aseptic" methods in Cardiff. In the numerous general duties which fall to a hospital administrator Alfred Sheen was always to the fore. When the Infirmary was moved to its present position in 1883, it was in the main due to his efforts that the site was obtained from the Marquis of Bute. He superintended every detail of its building, and, in addition, was an indefatigable collector of money to start it free from the burden of debt. It would not be too much to say that the Cardiff Infirmary building as it now exists stands as a monument to Alfred Sheen.

Space forbids reference to Alfred Sheen's many other activities—Initiator, Secretary and Treasurer of the South Wales branch, and until recently member of the Central Council, of the British Medical Association; Visiting Medical Officer to the Cardiff Workhouse Hospital, and an authority on Poor Law Medical Work; an original member of the Cardiff Medical Society, its first Secretary, at one time its President, and its first Honorary Member; Initiator, Treasurer, Chairman of Committee and Honorary Medical Officer of the Cardiff branch of the "Jubilee

Nurses"; a most active and useful member of the Council of University College, Cardiff; Treasurer and Hon. Surgeon-Colonel of the Church Lads' Brigade; Churchwarden of St. German's, Cardiff, to the time of his death—these are some of the many active and useful ways in which his life was spent.

There are certain members of the community to whom people instinctively go in time of trouble, and Alfred Sheen was one of these. All through his life, by correspondence or by interview, there came to him many who needed advice and help on various subjects, and advice and help were always willingly, carefully, and thoroughly given. Underneath a reticent and somewhat blunt manner was concealed an exceeding kindness of heart. His medical publications were as follows:—

BIBLIOGRAPHY OF ALFRED SHEEN.

"Strangulated Inguinal Hernia; operation; death; necropsy."—*Lancet*, 1878, ii. 879.

"Poisoning by Phosphorus; post-mortem examination."—*Brit. M. J.*, 1879, i. 347.

"On Iodoform."—*Practitioner*, 1879, xxii. 321—324.

"Intestinal Obstruction; puncture of the intestine; left lumbar colotomy; recovery."—*Brit. M. J.*, 1879, ii. 733.

"Provident Dispensaries."—*Ibid.*, 1880, i. 753.

"Five Years' Surgical Work in the Cardiff Infirmary."—*Lancet*, 1880, ii. 532, 613, 688, 764, 928.

"Colotomy in the Left Loin."—*Ibid.*, 929.

"Can a threatened attack of Diphtheria be averted."—*Ibid.*, 1881, ii. 1150.

"Two cases of Aneurysm of the Femoral Artery with Ligature of the External Iliac Artery; recovery."—*Brit. M. J.*, 1882, ii. 720.

"Nitrite of Amyl and Nitro-Glycerine in Uræmic Asthma."—*Ibid.*, 1883, i. 811.

"An Epidemic of Tetanus."—*Bristol M.-Chir. J.*, 1883, i. 173—183.

"Three cases of Intestinal Obstruction."—*Ibid.*, 1884, ii. 167—174; also *Brit. M. J.*, 1884, ii. 1014.

"An Address on the Relations of the Medical Profession."—*Brit. M. J.*, 1884, ii. 896—901.

"On Diphtheria, with cases."—*Bristol M.-Chir. J.*, 1885, iii. 113—124.

"Strangulated Hernia and its Treatment."—*Brit. M. J.*, 1887, i. 387—389.

"Case of Stricture of Æsophagus; gastrostomy; death."—*Ibid.*, 1889, i. 1463.

"Two cases of Trephining."—*Ibid.*, 1890, i. 236—238.

"Pleural Effusions, their Diagnosis and Treatment."—*Bristol M.-Chir. J.*, 1893, xi. 14—29.

The Workhouse and its Medical Officer. 2nd edition. Bristol: Wright & Co. 1890.

"Selections from my Casebooks."—*Brit. M. J.*, 1895, i. 9—12.

"A case of Axial Rotation of the Testis."—*Lancet*, 1896, i. 990.

"On an Outbreak of Small-pox at the Workhouse, Cardiff."—*Brit. M. J.*, 1896, i. 835—837.

"Three Severe Operations in one Patient. (1) Abdominal Incision for Perityphlitic Abscess; (2) Cœliotomy; (3) Hepatomy for Abscess in Liver."—*Practitioner*, 1896, lvi. 607—611.

"A case of Puerperal Septicæmia treated by Antistreptococcic Serum; death."—*Brit. M. J.*, 1896, ii. 1774.

"Case of Traumatic Rupture of the Duodenum and Jejunum."—*Ibid.*, 1899, i. 470.

"Recovery from Morphine Poisoning after Subcutaneous Injection of Atropine."—*Ibid.*, 1905, i. 1040.

Also papers on
"Indoor Medical Relief."
"Women's Work in Populous Parishes."
"Hospital Accommodation for Infectious Diseases in Cardiff."

Local Medical Notes.

University College, Bristol.—A distinct step has been taken towards the University of Bristol by the complete incorporation of the Medical School with University College. The resolution agreeing to this was passed at a recent meeting of the Governors of the College. The present building has been used by the Medical Department for fourteen years, but there has so far been only co-operation between the two bodies. The present incorporation will increase the status of the School and College. The Medical School was at work more than forty years before the College was founded, and amongst its lecturers were some of the best men of the day. Hundreds of highly-trained men have been sent out by the School, which for so long stood in seclusion in the old Park—and Bristol medical men are to be found in all parts of the world.

Long Fox Lecture.—Dr. P. Watson Williams has been appointed lecturer for this year. It will be given in November, and the title and date will be announced in a later issue of this Journal.

Examination Results.—Students of the Medical Faculty have recently passed the following examinations:—

F.R.C.S. Eng.—*Primary Examination:* C. A. Joll, B.Sc. Lond.

Conjoint Board.—*Medicine:* P. S. Connellan, C. E. K. Herapath. *Surgery:* J. W. J. Willcox, J. Ellington Jones*, L.S.A. *Midwifery:* P. S. Tomlinson.

L.D.S., R.C.S. Eng.—*Mechanical Dentistry and Dental Metallurgy:* R. J. Burton. *Final Examination, I.:* W. H. Ireland. *II.:* F. C. Nicholls*.

* Completes Examination.

Bristol Royal Infirmary.—C. F. Walters, F.R.C.S. Eng., has been appointed Surgical Registrar; W. W. King, M.R.C.S., L.R.C.P., Resident Obstetric Officer; and A. J. Turner, M.B., B.S. Durham, Junior House Surgeon.

Bristol General Hospital.—T. E. Coulson, M.B., Ch.B. Edin., has been appointed Senior House Surgeon.

The following description of the new Isolation Block at the Bristol General Hospital, opened by the Lord Mayor and Lady Mayoress of Bristol, in the unavoidable absence of Lady Smyth, who had promised to perform the ceremony, on January 26th, 1907, will be of interest.

The limited area of the site necessitated a somewhat unusual

arrangement of plan. The building consists of two parts joined by a narrow, cross-ventilated neck. The south portion is devoted to accommodation for the patients and the northern part to that for nurses. The building contains two floors, the upper floor being reached by a separate staircase approached from the outside, so that there is no internal connection between the two floors. Each floor contains two wards of two beds each and one ward of one bed, with duty room, two bedrooms for nurses, and the usual baths and sanitary arrangements, stores, &c. Care has been taken to avoid crevices, where dust or other deleterious matter could be harboured; all surfaces are smooth and easily cleaned. The doors are of the Gilmour type, now generally well known; they have the appearance of being made out of a solid plank, but actually they are made up of a number of pieces, and veneered so that they present a perfectly smooth surface without ledges or sinkings; they are finished with white enamel. The walls are plastered with cement and will ultimately be finished with enamel. The floors are of Eubœolith, a material laid in a plastic state, afterwards hardening and receiving polish. It is jointless, waterproof, fire-resisting, and unaffected by temperature. There is a heating chamber in the basement, and the warming is by hot water on the low-pressure principle, with ventilating radiators of a type easily cleaned. The extraction is by means of an electric fan.

At the Annual Meeting of the Bristol General Hospital, held on March 11th, under the presidency of the Lord Mayor, an excellent report for the past year was presented, which stated that exceptionally heavy demands had been made on the resources of the Hospital, both financially and in the work of treating a larger number of patients than has hitherto been recorded. The possession of the second operating theatre continued to lead to the increasing number of cases requiring operations of a more or less serious character being promptly dealt with. The isolation wing was now completed and fully equipped, and the formal opening recently took place. The work done at the Avonmouth Hospital under the medical officer and sister in charge had been considerable. The number of in-patients was 2,165, and that of the out-patients 35,264—a record number for the institution. 482 patients were sent to the convalescent home, with beneficial results. As regards finance, the ordinary expenditure exceeded the income—which had remained the same as in 1905—by £2,626. The workpeople's contributions amounted to £2,225, an amount which almost equalled the annual subscriptions. During the coming year it is hoped to raise £12,000, to enable two important additions to be made, which are needed to keep the institution thoroughly up to date. We feel sure that with the example of Bristol's public spirit quite fresh in our minds, which aided Sir George White to raise £50,000 for the Infirmary, this sum is not too much to ask for, considering the great work that is carried on at the General Hospital.

Bristol Royal Hospital for Sick Children and Women.—L. N. Morris, M.R.C.S., L.R.C.P., has been appointed Senior House Surgeon.

Newport General Hospital.—J. B. V. Watts, M.B., B.Sc. Lond., has been appointed House Surgeon.

Bristol Dispensary.—The committee of the Bristol Dispensary report that the number of patients recommended for relief in 1906 has been 10,323, viz. 7,997 at Castle Green and 2,326 at Bedminster, this being an increase over the previous year of 282. The number of notes sold to subscribers was 11,322. The committee much regret to record the death of their esteemed colleague, Mr. J. Hudson Smith, who had been a member of the committee for 22 years, and who generously remembered the institution in his will. W. H. A. Elliott, M.B., B.S.Lond., has been elected an additional surgeon to the institution.

The Bristol Medical Dramatic Club, which has now reached its twenty-ninth season, recently gave performances of *Home, Sweet Home, with Variations.* The performances were a great success, and the proceeds will be handed to the Medical Clubs' Union for the promotion of its endeavour to secure an athletic ground.

Royal United Hospital, Bath.—A public meeting was held at the Guildhall, Bath, on January 22nd, under the presidency of the Mayor, to consider the financial position of the Royal United Hospital, and the best means of reducing the debt of £5,000 which exists on the institution. The Mayor will make an effort to wipe off the debt during his year of office, and stated that he had already received several subscriptions for this purpose. After some discussion the meeting pledged itself to support the Mayor in his admirable determination to place the Royal United Hospital on a sound financial basis.

South Devon and East Cornwall Hospital, Plymouth.—Lionel Shingleton Smith, M.R.C.S., L.R.C.P., has been appointed House Surgeon to this hospital.

Devon and Cornwall Ear and Throat Hospital.—The twentieth annual meeting of the subscribers to the Devon and Cornwall Ear and Throat Hospital, Plymouth, was held on February 5th, under the presidency of the Mayor. The medical report stated that during 1906 there had been 987 patients treated, compared with 859 in 1905, and that 23 in-patients had been admitted against 12 in the previous year.

"**Index Medicus.**"—An intimation has been issued by the Carnegie Institution of Washington that "unless it appears that the *Index Medicus* is of greater service to the medical profession, and can help to support itself to a greater extent than in the past, it may become advisable to discontinue its publication." The *Index Medicus* was established in 1879, and died for want of support in 1899. In 1903 the Carnegie Institution made a grant

of £2,000 a year to keep it alive, whilst the subscription price was reduced from £5 to 25s. per annum. We understand that the total number of subscribers is 532, of whom 396 are in the United States. All those engaged in bibliographical research will remember how difficult and tedious searching for references became when the *Index Medicus* ceased in 1899, and it is to be hoped that many doctors—we will not say medical libraries, as we hope there are none who are not subscribers—will acknowledge the generosity of the Carnegie Institution by becoming subscribers. The subscription (25s.) defrays only about one-fifth of the cost of production.

Pathological Demonstrations.—On February 14th Dr. J. M. H. Eyre, of Guys Hospital, London, gave a demonstration on Pneumococci at the Bristol Eye Hospital, upon the invitation of Professor Walker Hall. Dr. Eyre pointed out the differences in the several types of pneumococci, and deprecated the dependence upon morphological characters alone for routine diagnosis. He insisted that numerous cultural tests should be carried out before any diplococcus was designated as the pneumococcus. He also remarked upon the manner in which the tissues resisted the pneumococcal organisms. In some cases a cellular, in others a fibrinous exudation, marked the response. Dr. Eyre considers that pneumonia is a distinct septicæmic condition, the cocci being present in the blood stream at an early period of the disease.

On February 18th Professor Walker Hall gave a lantern demonstration on epidemic cerebro-spinal meningitis and malaria and blood diseases at the Royal Infirmary. He showed some of the new serum, detailed its mode of preparation, and explained the manner of its application.

We understand that Professor Symmers, of Belfast, is shortly expected to take one of these demonstrations. The subject will be "Bilharziosis." Professor Symmers was able to obtain a large number of specimens during his tenure of office in Cairo. Bilharziosis is now becoming so common in this district, that we feel sure everyone will be glad of an opportunity of discussing the condition.

We are enabled to state that the coming summer "Friday" demonstrations will assume rather a different character from those of the past winter session. Dr. Walker Hall proposes to devote the entire term to the diseases of the stomach and intestines. The bacteriology, parasitology, and chemistry of the tract will be considered in detail, and the ulcerations and obstructions will be dealt with fully. A feature of the course will be the condition of the gastric and intestinal mucosæ and contents in diseases of the circulatory, respiratory, renal, and nervous systems. Practitioners will be admitted on presentation of their cards.

J. H. Bufford's Sons

Photo. Steel Engraving Co.

Very sincerely yours.

E. Markham Sherritt.

VOL. XXV. No. 96.

Very sincerely yours
E. Markham Sherratt.